AN INTRODUCTION TO PSYCHOLOGY

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PREFACE

THIS book has been written to meet the first needs of non-professional students of psychology, and particularly of those who take up the subject in classes organised by the Workers' Educational Association. Its structure is the outcome of several years' discussion with such students. I have not attempted to make an outline survey of the subject, for that would be an impossible task in the space available. My aim has been to present a consistent point of view with regard to some of the outstanding controversies which tend to bewilder the beginning student,—a point of view in harmony with a biological outlook.

I am greatly indebted to Professor T. P. Nunn, for his kindness in reading certain chapters and offering valuable criticisms.

SUSAN S. BRIERLEY

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AN INTRODUCTION TO PSYCHOLOGY

PART I

THE SCOPE AND METHOD OF PSYCHOLOGY

CHAPTER I

DEFINITIONS

THE student taking up different text-books of psychology will find various definitions of the subject, and none that we can offer will meet with universal acceptance among psychologists. To those who pin their faith to definitions this may appear to be a serious matter, and it would certainly be an advantage if we could state in precise and generally accepted terms the exact nature of the facts with which our science is concerned. These differences of opinion, however, do not persist because psychologists are more muddle-headed than other people. There are very good reasons for the divergent views. Some of these reasons are in a sense extraneous, arising from the historical relations of the science to other branches of thought as, for example, ethics and metaphysics.

Until comparatively recent times, inquiry into what human nature *is* has been deeply coloured by prejudice as to what it *ought to be*, and we can even now hardly look upon our concrete problems with anything approaching the dispassionate attitude with which we examine physical and

chemical facts. To a large extent moreover, psychology is still too intimately connected with philosophical theories. All sciences lie under the shadow of metaphysics in their infancy; they only succeed in establishing and developing themselves as they break away from its influence, becoming concrete and experimental. Psychology is the youngest member of the family to assert its independence, being yet indeed little more than a fledgling.

A more significant reason for the lack of general agreement as to the definition of psychology is that a definition often does more than point to the concrete facts with which the science is concerned—it may imply some theory as to the essential nature of those facts.

It is very easy to provide a list of the concrete problems upon which psychologists are actually engaged, as we try to do in Chapter III; there is no quarrel here. It is when we try to sum these up in general terms that difficulties of theory, of interpretation, arise. When we say that psychology is the study of "the soul", of "the mind", of "consciousness", of "behaviour", the question of what we mean by these terms is raised at once, and it is here that psychologists join issue. It is in the final interpretations of our science that the great difficulties lie, and these cannot be solved until we know very much more about the concrete facts and their detailed relations. Hence it is more important to press on with the study of the concrete problems which lie waiting for us on every hand than to spend our time in barren discussions as to the precise scope and meaning of our science. The essential nature of the facts with which psychology deals and its precise relation to other sciences are more likely to be revealed in patient experiment than in mere debate.

Yet we must have some quite tentative working definition, the value and limitations of which will become clearer as we go further. Perhaps the most useful definition of psychology from which to begin is "the study of behaviour"; we may however, with advantage, briefly discuss one or two serious rivals to this point of view. And first, we may consider the definition "the study of consciousness."

Psychology as the Study of Consciousness

There is little difficulty in understanding just what we mean by the term consciousness, for we all know what it is to be conscious, to be aware of something. We may be aware of the pen with which we write, of the ideas which we are expressing, of the movements we make in expressing them, of the pangs of hunger or the weariness which lead us to cease writing, of the sunset or houses and trees which we see from our window. We are, or can be, conscious of each of these in turn. We can even become greatly conscious of ourselves, as when we walk into Church or a public meeting late. Yet we cannot define consciousness, nor say in what it consists. We can simply point to it as a well recognised experience; and perhaps help in marking it out more clearly by referring to occasions when we are unconscious. We are, for example, unconscious in deep sleep or in a "faint." We are unconscious of a particular past experience if we cannot now recall it in memory, the effort to "recall" it being just an effort to bring it to present consciousness. When we remember it we are aware of it.

There is thus little doubt as to the meaning of the term; but in spite of this, we cannot be satisfied with it as a definition of psychology, because we find that the facts of consciousness by themselves are insufficient for the purposes of science. We may give a full description of our feelings, wishes and ideas, and all the ever-changing phenomena of conscious life, as they actually do occur; but this is mere history, and science cannot be content with a simple chronicle. We wish to go deeper, to discover the "how" of the facts, and to find the underlying tendencies and essential sequences. To achieve this we are compelled to take into consideration many facts which lie outside the circle of consciousness, for the sequence of conscious experience is frequently influenced by unconscious processes of one kind or another.

What these are will become clear to us as our study proceeds, but we shall see that they are essential elements in the complete story of mental life; and without them we cannot arrive at any understanding of the general tendencies of

conscious experience. A definition which finds room for these unconscious factors is that which expresses psychology in terms of behaviour.

Psychology as the Study of Behaviour

Even those who consider conscious phenomena to be the proper concern of psychology have had to recognise the study of behaviour as a method of the science. We cannot observe consciousness directly save in ourselves, and our knowledge of the inner experience of other people is gained indirectly. We watch what others do, listen to what they say and the way in which they say it, and thus try to come to some understanding of their thoughts, feelings and purposes. The very language we use to describe our awareness of things and people is itself a form of behaviour; there is indeed as much to be learned from the way in which we speak as from the words we say; as much from the things we leave unsaid as from the statements we volunteer. We are, moreover, interested in the life of those who have no language, or none adequate for the proper description of their experience,—the child and the animal,—and here we have no method but that of the study of behaviour.

If we adopt this definition of psychology, however, we have still to make clear (as far as may be done at this stage of our inquiry) what we mean by "behaviour".

We may usefully take as a starting-point the interpretation offered by McDougall, who stands for the view that behaviour is "purposive activity". "We all recognise broadly that the things which make up our world of perceptible objects fall into two great classes, namely, inert things, whose movements and changes seem to be strictly determined according to mechanical laws, and living things, which behave or exhibit behaviour. And when we say that they exhibit behaviour, we mean that they seem to have an intrinsic power of self-determination, and to pursue actively or with effort their own welfare or their own ends or purposes".

"The manifestation of purpose and the striving to achieve an end is, then, the mark of behaviour; and behaviour is the

characteristic of living things. This criterion of life is one of which we all make use, but most of us have not reflected upon it, and we may dwell upon it for a moment with advantage. Take a billiard ball from the pocket and place it upon the table. It remains at rest, and would continue to remain so for an indefinitely long time, if no force were applied to it, no work done upon it. Push it in any direction, and its movement in that direction persists until its momentum is exhausted, or until it is deflected by the resistance of the cushion and follows a new path mechanically determined. This is a type of mechanical movement. Now contrast this with an instance of behaviour. Take a timid animal, such as a guinea-pig, from its hole or nest and put it upon the grass-plot. Instead of remaining at rest it turns back to its hole; push it in any other direction, and as soon as you withdraw your hand it turns back to its hole: place any obstacle in its way, and it seeks to circumvent or surmount it, restlessly persisting until it achieves its end or until its energy is exhausted. That is an example of behaviour from the middle region of the scale of complexity; consideration of it reveals very clearly the great difference between behaviour and mechanical process. As an instance higher in the scale of complexity, consider a dog taken from its home and shut up at some distant place. There, no matter how kindly treated, he remains restless, trying constantly to escape, and, perhaps, refusing food and wasting away; when released, he sets out for home, and runs many miles across country without stopping till he reaches it, following perhaps a direct route if the country is familiar to him, or perhaps only reaching home after much wandering hither and thither. As an example from the upper end of the scale of behaviour, consider the case of a man who loves his native land, but who, in order to earn his daily bread, has accepted a position in some distant country. There he faithfully performs the tasks he has undertaken; but always his dominant purpose is to save enough money to enable him to return and to make a home in his native land: this is the prime motive of all his behaviour, to which all other motives are subordinated. We

best understand this last behaviour if the exile tells us that he constantly pictures to himself his beloved native place and the enjoyments that he hopes to find there. For we know well what it is to foresee an event and ardently to desire it. Even if the exile be but a dull-minded peasant, incapable of explicitly anticipating the delights of his return, who seems to be affected merely by a home-sickness which he cannot express or justify in words, we still feel that we can in some measure understand his state and his behaviour. We feel this also of the dog in the foregoing instance, and in a less degree of the animal of our first example. For we, too, have experienced a vague and formless unrest, an impulsion to strive persistently towards an end which we can neither formulate nor rationally justify; we, too, have experienced how obstruction to such activity does but accentuate our impulse, how successful progress towards the end brings us a vague though profound satisfaction, and how achievement of the end can alone relieve our inward unrest".

"These, then, are indisputable instances of behaviour. They are only to be understood or explained after the analogy of our own experiences of effort or striving. No attempt to explain such facts mechanically has at present the least plausibility or can in any degree aid us in understanding or controlling them".

"Now the same is true, though perhaps less obviously true, of still simpler forms of behaviour".[1]

Such a conception of behaviour and of the field of psychology seems upon the face of it fairly direct and simple, and it is a view that has great importance and value. In the first place, it emphasises the biological outlook which is an essential basis for modern psychological study. We shall see when we turn to such concrete problems as the emotions and the development of personality that our understanding of these problems begins when we learn to regard man, in common with other living creatures, as an expression of biological laws, and in particular when we learn to apply to him the concept of evolution. The theory of evolution laid

[1] McDougall, W.: "Psychology", chap. I., pp. 19–23.

the foundations of the scientific approach to the study of human nature. Any serious interpretation of psychology must be in harmony with this fundamental attitude; and this demand is fulfilled by the view we are considering. Other advantages of this view are that it starts from simple facts of immediate observation, and that it leads us to look upon the data of our science as the dynamic processes of life, continually changing and developing, rather than as separable and fixed mental "states" or "faculties".

Moreover, as the few instances quoted above suggest, the purposive activity or behaviour in which we are interested shows a widely ranging scale of complexity. Different as the simple responses of the lowliest organisms and the typical life and works of man appear, they are kept apart by no unbridgeable chasm. They are merely the end-terms of a series of types of activity which shows unbroken continuity of development with various degrees of complexity. There is now no sufficient ground for holding that the behaviour of a man, of a dog, and of a unicellular organism differ absolutely in kind. There are very significant differences, but these are nowhere marked by absolute distinctions or sharp boundaries. And consciousness, or, rather, conscious activity, finds its own place at the upper end of this scale of behaviour, offering indeed the highest and the most fully developed expression of behaviour as it is here regarded, i.e. as purposive activity.

This we shall make clear in many ways as our discussion proceeds. It must be said, however, that we accept this view of behaviour as "*purposive* activity", not as dogmatic and incontrovertible, but as a useful working attitude to the concrete problems upon which we are engaged. It is, indeed, more than probable that the distinction between "mechanical" action and "purposive" activity is not final and absolute, for the growth of knowledge is slowly bridging the apparent gap between many of the outward manifestations of the living and the non-living.

There is another possible definition which we may now profitably consider, viz. in terms of "mind".

Psychology as the Study of the Mind

This view is widely accepted, and of considerable value. There are, however, possibilities of wide differences in its interpretation, and we must be very clear as to the sense in which we use the term "mind". We must not allow the word itself to run away with us, and carry us beyond our proper province of immediate and concrete experience. We are not justified, from the psychological standpoint, in regarding "mind" as some mysterious independent entity distinct from "body", yet existing in equally mysterious relation with "body". We commonly make such a distinction, and the view is one of great importance in the history of thought. It is, however, an artificial distinction, and involves a begging of the question. We must, in a scientific inquiry, keep always close to the actual facts of experience. What we know is not "the mind", but concrete mental events and tendencies,—our emotions, desires and images; the facts of hearing and seeing and speaking, and so on. The mind is, in other words, "the sum-total of the mental processes occurring in the lifetime of the individual". And yet we can hardly speak of a "sum-total", for mental processes are not things which can be added together. A better way of putting it is to say with McDougall that "the mind of any organism is the sum of the enduring conditions of its purposive activities"; but that this "sum" is "not a mere aggregation"; it is "rather an organised system of which each part is functionally related to the rest in definite fashion".[1] As was pointed out above, science is not content merely to describe the superficial order of events as they occur, but seeks to discover the underlying tendencies and essential universal sequences. The mind of a creature, on the view here noted, is just the whole of those determining tendencies which issue in the actual facts of its behaviour, including of course, the conscious levels of behaviour if these are present. On such a view, then, it is largely indifferent whether we define psychology as the science of behaviour, or of mind, for we cannot study the

[1] McDougall: "Psychology", chap. II., p. 70.

one without the other. To define in terms of behaviour is perhaps the better, however, as we thus more obviously emphasise the objective attitude of our science, and the dynamic character of its data.

Behaviourism

We must at this point make brief reference to an important group of investigators [1] who, also defining psychology in terms of behaviour, are impelled by just their sense of this need for an entirely objective attitude to take up a position radically different from that of McDougall, and in fact of most psychologists. They take the term "behaviour" simply and literally, as just "what the animal (or man) does", feeling no need for any interpretation such as "purposive activity"; for them the supposed distinction between mere mechanical action and behaviour is beside the point. To most psychologists such an interpretation is vital, because they need to find room, in the comparative scale of behaviour, for human purposes and human consciousness. Human values remain for them the central and primary facts; compelled by a scientific conscience to take the comparative point of view, they yet work downwards from human self-awareness to the reactions of the lowlier organisms, carrying consciousness with them, as it were. In the view of the American behaviourists, however, psychology is not concerned with consciousness at all, even in the case of human beings, but finds its legitimate and sufficient material for a science in the external facts of mere behaviour. On their view thoughts and images and sensations are not only too subjective, too elusive, to form the subject-matter of science, but are not needed for the understanding of what we can observe accurately and study experimentally by methods familiar to science, viz. behaviour. Muscular reflexes and habits, glandular and circulatory changes, these are the things that we can deal with. It is what the animal *does*, that matters, that has biological significance;

[1] See J. B. Watson: "Psychology from the Standpoint of a Behaviourist".

not what he " thinks " or " feels ". We thus have now not merely a " psychology without a soul," but a psychology without consciousness. It cannot be questioned that behaviourism has already made solid contributions to our understanding of many of the mechanisms involved in the activities of living beings, but its claim to deal with the whole story of those activities meets with far from general acceptance. Its opponents would say that such a claim is only made possible by a deliberate *tour de force* with regard to one-half the facts. Images and feelings have as much reality in their own right as movements and sensations, and any really adequate psychology must find room both for the facts of behaviour and those of consciousness, must, indeed, bring these together in the one system of relations.

The student is here brought up against one of the most fundamental and outstanding controversies. He will only be able to find his own allegiances when he has a fuller acquaintance with the detailed facts and methods involved. It may, however, occur to him to ask how, on the view that psychology is the study of behaviour, does psychology differ from physiology ? The answer given by some behaviourists is that while physiology is mainly concerned with the analysis of the special functioning of particular structures and organs, psychology is concerned with the functioning of the animal as a whole. Physiology studies the mechanisms of digestion, of respiration, of the skeletal reflexes, and other such detailed problems in isolation. Psychology concerns itself not with this or that gland or muscle, but with what the *animal* does. We can only speak of behaviour when we are considering the animal itself, as the unit of our study. Such an explanation of the relation of the two sciences is by no means free from objection, but we may let it stand at this stage of our enquiry.

CHAPTER II

METHODS

IT is impossible here to offer an adequate account of even the more important methods of psychological science, as these are far too numerous and varied, each department having its own special technique. In order to gain some idea of how psychologists attack their problems, however, we may consider the larger standpoints of technique, with a few illustrations of particular methods.

We may first of all group the various methods with regard to the order of facts with which they are directly concerned.

Introspection

We have already seen that conscious experiences are among the material of our science, and that these are immediately accessible only in ourselves. This direct observation of our own conscious life is termed *introspection.* There is nothing mysterious about introspection; it is a thing we often do in the ordinary course of our lives. Whenever we remark that we are hungry, or feel cold, or have a headache, whenever we describe a dream or a vivid mental picture of some scene we have visited, we are reporting upon our conscious experiences. In the ordinary way, however, we do this roughly and unsystematically, and we do it only for practical ends, other than psychology. When we remark that we are hungry, we wish perhaps to speed up the preparation of a meal, not to examine the " feeling " of hunger in detail for its own sake, its waves of intensity and its special qualities. In psychological studies we are interested in all

the details of the conscious experience itself, and we have to attend to these directly and in a deliberate orderly fashion. We may, for example, study our own " images ". Can we recall with our " mind's eye " pictures of things we have actually seen, as Wordsworth recalled his daffodils ? Can we hear again with our " inward ear " a particular melody or voice ? And if we have these images, are they faint or vivid, clear or confused ? There are found to be great individual differences with regard to the experience of such imagery, and these are well worth studying in ourselves. We can, of course, make comparison of our own with other people's experiences only by means of their verbal reports upon the results of their own introspection. But we are able to appreciate the inwardness of these reports by virtue of our own experiences ; and conversely, the records of other minds enable us to understand our own more fully.

Behaviour

As we remarked at an earlier point, however, language is not merely a system of conventional symbols for conscious experiences and other facts,—it is also a form of behaviour. It often tells far more about our secret wishes and our personality than we realise. It may even reveal, to those who have the skill to decipher it, emotions and desires and general traits of character of which we are ourselves quite unconscious. For every inflection of the voice, every accompanying gesture and facial expression, every " slip of the tongue " or momentary clumsiness is an index of underlying tendencies. There is no bodily process or expression devoid of meaning. The scope of language is far wider and more significant than that of an explicit code for the deliberate communication of conscious experiences. It will thus serve as an important example of the second great group of psychological methods, those directed to the study of bodily activities, or *behaviour*, in the narrow sense. All comparative studies of human and other animals belong here. We may, for example, watch the nesting and migratory habits of a particular species of bird, observe the conduct of a dog whose master is about to take

a walk without him, study the spontaneous play of little children, the reactions of a mob of disorderly human beings under the stress of primitive passions, or the emotional intensities of men and women at a revivalist meeting. Again, this observation and interpretation of the behaviour of other men and of animals is a thing we are constantly doing in the course of everyday practical life. We cannot get along without it. We judge our fellows to be glad or sorry, angry or approving, by the subtleties of their conduct, and adapt our actions accordingly. The whole possibility of social adjustment is built upon our capacity for rightly interpreting and predicting the behaviour of others. What is sufficient for ordinary practical ends, however, has to be made much more exact and systematic for the purposes of science.

Mental Products

A third great group of psychological methods consists of those directed to the study of the *products* of the activities of living creatures. The nest of a bird or a wasp, the beavers' dam, the bees' honeycomb, reveal much to us of the behaviour of the animals which constructed them. The tools and vessels of a people, their burial customs, their domestic and religious architecture, their decorations and regalia, tell us of their social capacities, their hopes and fears. Indeed, of many prehistoric folk, fragmentary relics of these products of their busy lives are all we possess as an index to their mental activities. With the historical peoples, their literature and recorded social customs, institutions and forms of government, serve as similar psychological evidence. We are well accustomed to make some judgment of the personality of authors by the study of their literary products. A poem, a play, an essay, tell much of the character of the writer,—so much so that we sometimes attempt to decide a disputed authorship on the basis of " internal evidence ".

The student must realise that these three types of method are correlative and serve to supplement each other. Wherever possible we combine them. We do so in practical life, for example. We interpret the behaviour of others in the

light of our own experienced desires and feelings, and on the other hand, the observation of the ways of other people helps us to understand our own longings and impulsions. Similarly in the more exact studies of science we use every kind of fact which is available. The methods of *psychoanalysis* may from one point of view be cited as an illustration of this. The analysis may start from the report of a particular dream or series of dreams. A dream is clearly a mental product, like a poem or a story, and the analyst is able to understand something of its meaning by direct comparison with other dreams of the same person or of other people. The dreamer is then requested to give his "free associations" connected with the dream incidents or the words in which it was described, all the memories, images and thoughts that occur to him, no matter what they be. He is thus offering further products to the analyst for examination. It is found that to some at least of these thoughts the dreamer will react with considerable emotion, which he may perhaps attempt to suppress. The emotion connected with some associations may indeed be so great and of such a kind as to make it impossible for him to communicate them. All this, and the subtle changes of bodily pose and gesture, facial expression, tone of voice, hesitances, over-eagerness, clumsiness and "slips" of the tongue, every detail of his behaviour during the recital of the dream and its associated memories are further psychological material for the analyst, often throwing light upon the dark places of the dream itself. Moreover, while the dream and its linked memories are being described, the subject himself is using the method of introspection ; he is examining his own images and the emotions experienced during the dream and after. The language used by the dreamer throughout the analysis is treated from all three points of view, as a highly significant mental product, comparable with other similar products, as an instrument for the recording of introspective data, and as itself a subtle and complex instance of behaviour.

Considered as research, psychoanalysis is seen to employ all these types of psychological method, and to employ

them in such a way, that each shall assist the others. (The research aspect of analysis, however, is as a matter of fact by no means the most important, but an account of the curative processes involved would not be in place at this point.[1])

"Observation" and "Experiment"

We may now consider psychological methods from a second general standpoint. It is common in all the sciences to make a distinction between methods of *observation* and methods of *experiment*. When we merely observe nature, we make no attempt to alter the sequence of events, to control or disentangle any particular factors. We merely stand by and record what we may of the various strands of the vastly complicated web of natural phenomena as it occurs. The experimental method deliberately interferes with the course of nature. It is not content to let things happen in the ordinary way. It creates and controls conditions, isolates and determines particular factors, thus making possible not only a more careful and detailed analysis of a situation, but also the exact repetition of the work for confirmation by others. We are now accustomed to value experimental investigations more highly than mere observation; and on the whole with justice. There are however many fields of research where we cannot employ experiment, either from the nature of the case, or because our knowledge and technique are not sufficiently advanced. In most cases both methods need to be used, the facts gathered being supplementary and throwing light upon each other.

An important example of this is the study of animal behaviour. Our exact knowledge has increased enormously with the application of experimental methods, but these should always be related to and have as a general background the results of observation in the field, under natural conditions. In social psychology moreover, experiment is hardly possible at all. Observation as such, therefore, need not be despised. There is a great wealth of knowledge in psychology, as in other sciences,

[1] See Chapter IX.

which has been gathered by this method. In animal behaviour, in social psychology, and in " clinical " studies of the temperament, emotional characteristics and social reactions of the individual, trained observation will always have a considerable part to play. Yet not every observation is reliable ! We may turn again to animal psychology for illustration of " observations " which are worse than useless, side by side with those of the highest value. Every day one can read anecdotes of animal life based on supposed observations, which are thoroughly vitiated by inaccuracies and carelessness, by the intention to " prove " something, or by the desire to point some moral. Observation that is to be reliable and significant must go slowly and humbly, willing to take one point at a time and settle that with honest and careful attention. It must make the records exact in detail, as nearly free from bias and disturbing affections as is humanly possible. Above all, perhaps, it must report data that tell against the observer's pet theories and previously published opinions, and even data which are æsthetically or morally disturbing.

A method of observation which has been extensively used in various psychological studies is the *questionaire.* When Galton became interested in the problem of imagery, for example, he sent out inquiries to a large number of people, asking them to study their own images and report upon these by answering a list of formulated questions.

Some of these queries were framed thus :—

" Before addressing yourself to any of the questions on the opposite page, think of some definite object,—suppose it is your breakfast-table as you sat down to it this morning,—and consider carefully the picture that rises before your mind's eye.

" 1.—*Illumination.*—Is the image dim or fairly clear ? Is its brightness comparable to that of the actual scene ?

" 2.—*Definition.*—Are all the objects pretty well defined at the same time, or is the place at the sharpest definition at any one moment more contracted than it is in a real scene ?

" 3.—*Colouring.*—Are the colours of the china, of the toast,

bread-crust, mustard, meat, parsley, or whatever may have been on the table, quite distinct and natural ? " [1]

The answers received to these questions brought to light some extremely interesting facts, such as, for instance, the great diversity of individual experience with regard to images. The student will readily see, however, that it is very difficult to ensure that all the reports are made with equal care and reliability, the inquirer having no control over the methods of observation of those who answer his queries.

The method has since been used by students of the psychology of religion, of children's vocabularies and interests at certain ages, and many other problems, and it certainly succeeds in bringing together a vast mass of data, much of it extremely suggestive. It cannot however be looked upon as useful for more than the preliminary marking out of lines of fruitful inquiry, for it provides no index for separating exact and reliable from careless and untrustworthy evidence.

Experimental Psychology

It is undoubtedly with exact experimentation that the main future of psychological science lies. One needs to remind the student here that " experimental psychology " is not a special branch of psychology. It is simply the mass of data and conclusions gathered by the application of exact experimental methods to all psychological material which lends itself to such treatment. It has been found applicable to an increasing range of phenomena, as its technique has been gradually varied and perfected. Apparatus, simple or more elaborate, is used in experiment in order to aid the control of factors, the actual observation of phenomena or the exact recording of the results. Suppose, for example, I wish to study *word-associations*. It is a familiar fact that when one hears a word spoken it brings to one's mind other words which have had some connection with it in our former experience, or which have some common meaning or emotional significance. These word-associations have far

[1] See F. Galton : " Inquiries into Human Faculty ", Section on " Mental Imagery ".

greater importance than they seem to have at first sight, and much interesting work has been carried out in regard to them. If I wish to investigate this problem I may ask another person, my " subject ", to listen to a series of specially chosen " stimulus words " which are repeated aloud in a certain order. She responds by giving me at once the first word which occurs to her on hearing each stimulus word, and these are recorded as they are spoken.

The following is such a list of words given on one occasion to a lady well known to the writer, with her immediate replies :—

Warm . .	Cold.
Easter . .	Easter card, one I had years ago from my brother.
Father . .	Sternness.
Ill . . .	Convalescent.
Holiday . .	Barmouth.
Bicycle . .	Symond's Yat.

The actual associations tell one something of the subject's interests and emotional tendencies, especially if the subtleties of her accompanying behaviour are noted, and she is asked for the results of her self-observation. In this example all the responses except perhaps the first referred to significant individual experiences in the subject's life.

If, further, the time elapsing between the receiving of the stimulus and her response be recorded on a stop-watch in, let us say, fifths of a second, a fact not otherwise apparent is learned, viz., that the time taken for the associative response is a variable quantity. If the method be refined still further, by the use of delicate apparatus recording finer divisions of time, let us say, thousandths of a second, with much more exactitude than can be estimated with the stop-watch, again correlating these time-records with the behaviour and introspection of the subject, it is found that the variations in the " reaction time " are of considerable importance. An increased or, occasionally, a shortened reaction time tends to occur whenever the stimulus word has special personal meanings for the subject, creating emotional disturbances. It

may be that the first actual association with a particular stimulus word is one which the subject does not care to tell me. She may quickly reject it and choose another indifferent one, which will not " give her away ". But this lengthens the time taken, and so the disturbance is revealed in spite of the subterfuge. So true is this that the method of word association is used by some physicians for the discovery of hidden emotional trends and the buried memories connected with them.[1] It has been successfully employed in establishing the innocence or guilt of those suspected of theft, by the presentation of such stimulus words as would inevitably arouse emotion in the thief, but leave the innocent unaffected.

We may take, as another example of the application of experimental methods, the study of *mental differences between men and women.* Popular beliefs regarding the existence and nature of such sex-differences are very confused, and the judgments of reputed authorities very conflicting. The matter is clearly one for experimental investigation. I can take equal groups of men and women, endeavouring to make them not only equal in numbers and average age, but essentially similar in social background, in previous education and intellectual advantages. I may even take pairs of twins as being subjects in whom all differences other than those arising directly from difference in sex are likely to be minimised. I try, in other words, to isolate the sex factor, and thus observe the effects due to it and to it alone. My subjects then submit themselves to various " tests " of mental ability. I may test capacity for discriminating fine changes in colour or intensity of light ; in pitch or intensity of sound ; delicacy of touch and spatial discrimination ; sensibility to pain ; accuracy of thrust at a target ; speed and accuracy in sorting cards ; memory for colours, faces, words of various content ; types of association ; adaptability in the acquirement of new habits ; improvability in mechanical skill ; capacities for quick and sound reasoning, or appreciation of an ethical situation. The results of all these experiments are recorded accurately and dispassionately, and finally set out

[1] See Jung : " Studies in Word Association ".

in such a manner as to reveal what differences occur between the achievements of the two groups. If the conditions have been constant throughout, and the members of the group well chosen as regards similarity of all factors other than that of sex, I may hope to arrive at some reliable and objective conclusions as to sex differences, at least with regard to that particular type of men and women and those abilities tested. If, however, my group represented a special class of society, as for example professional people, I have no right to argue that my conclusions necessarily hold good for the population as a whole. It is possible, for instance, that similar professional training and a University standard of education may tend to obscure some sex differences that are natively there. Similar exact investigation of other classes of men and women are therefore necessary before any widely applicable generalisations can be made.

We may take as another example of experiment the study of *the effects of certain drugs upon fatigue.* I wish to know whether it is really helpful to take alcohol or tea when I am tired, in order to enable me to do more work. I cannot rely upon observations made in the ordinary way, as too many emotional and other unaccountable influences are operative. My ordinary tasks are too variable, too complex, or allow the factors of interest or excitement or boredom to enter too readily, and I must therefore choose some task upon which to measure my working capacity, which is relatively simple and indifferent, which can be kept under constant conditions, is independent of extraneous motives, and of which the quantity performed is easily measured and recorded. An apparatus has been devised which, by a clockwork mechanism, causes a strip of paper to pass continuously behind a small aperture in a horizontal bench, and upon this moving paper are marked small circles in an ever-varying pattern. My business is to place a pencil dot in each of the circles, and as the pattern moves along, not knowing just where the next circle will appear, I am obliged to attend to their order very carefully and to make my own movements very rapidly and exactly. The speed and accuracy of my work is objectively

recorded by the work itself. Performances of such a task have been found to vary with the condition of freshness or fatigue, and this can be verified as a general fact. I now wish to produce in myself a certain state of fatigue, in order to test the effect of the drug. This I may do (if I am a sufficiently venturesome and devoted investigator),[1] by depriving myself of sleep for, let us say, three nights in succession, while trying to keep all other conditions of life quite constant. Meanwhile I test my performance of the special task, before this deprivation of sleep, after the sleepless nights and during the process of recovery. Then after another period of sleeplessness, I apply the drug whose effects I wish to study. At once these effects are revealed by the differences between the ensuing curve of work and that gained without the drug. Thus an objective impersonal record of the influence of the drug in question upon the state of fatigue is obtained, and it can be seen at a glance whether the output of work is improved or lowered, whether such immediate effect persists or is followed by a reaction, and so on. My own " feelings " as I now observe them have a much greater value than when they stand alone, and these are carefully recorded alongside the objective measurements. I may perhaps find that when I feel I am working well, my output is poor ; or my feelings may turn out to be more untrustworthy ; and this may depend to some extent, upon the drug. In any case, I cannot know what reliance to put upon my subjective experiences unless I have placed them side by side with some objective criterion of this kind.

Or again, I may wish to study *industrial fatigue*, to ascertain, for instance, the effect of " overtime " upon the production of fatigue in those engaged in a munitions factory. I cannot take the " feelings " of the workers themselves, for laboratory studies have shown that the feelings of tiredness or freshness are not reliable indices of one's real capacity for work ; nor can I rely upon the vague impressions of those who watch the workers at their task. I must either have

[1] See Smith, May : " A Contribution to the Study of Mental Fatigue ". " British Journal of Psychology ", 1916, Vol. VIII, pp. 327–350.

exact records of the output of work under all conditions, and for chosen units of time in periods when overtime is worked and is not worked, or apply some other known test of fatigue. Phenomena may be taken which are known to vary with the condition of fatigue or freshness, as, for example, blood-pressure, capacity to discriminate fine differences of light or sound, or reaction time to a constant stimulus. The workers are tested with these as carefully as possible before and after chosen periods of work, on overtime and other days; and this not only upon one occasion, but upon several, in order that factors which cannot be controlled, such as changes in the diet or recreation, temporary indispositions or emotional disturbances of the subjects, will equalise themselves over a wide period of time. The results of these tests may be plotted against the units of time worked, for the overtime days or weeks and those in which overtime does not occur.

Such objective data, properly set out for comparison, will reveal the effects of overtime upon the condition of freshness or fatigue, and upon the total output, in a useful and trustworthy form; and upon them we may base reliable conclusions for practical purposes.

Mental Measurement

From these examples of experiment in psychology it will be seen that quantitative methods play a large part in many of our investigations. We do not merely ask the questions "what?" and "how?", but go on to inquire "how much?", as all sciences do. At first sight it may seem strange to suggest that we can measure the mind, or apply quantities to ideas and images, feelings and sensations, and there has indeed been a good deal of controversy as to the theoretical possibility of mental measurement. Yet it is clear that in daily life we do constantly make rough quantitative comparisons of the various mental qualities and processes. We use such a rough scale, for instance, as "excellent—very good—good—fair—poor—very poor"; we say that A is less intelligent than B, but has more patience, that C is very slow at learning to write, D has a poor memory, and so on. The

concern of the scientist is to give these crude terms some precise and constant value. And starting from the view, as Thorndike puts it, that " Everything that exists, exists in some amount, and if it exists in some amount it can be measured ", the practical psychologist has gone rapidly ahead devising ways and means to do this and, as our examples have suggested, he has demonstrated the feasibility of measuring the mind *as it is expressed in behaviour*.

His first problem is to discover a suitable *unit* of measurement for each of the various mental processes which he wishes to examine. When we wish to compare length of limb or size of head, we have a standard measure, a constant unit (inch or centimetre) moving up and down a regular scale, to give precision to our descriptive terms " large ", " medium " or " small ", and we can indicate exactly the distance between the quantities designated by these terms. Similarly we wish to know whether the term " excellent ", as applied to eyesight, memory, perseverance or intelligence, for example, is as much better than " good " as " good " is better than " poor " ; and so on.

Acuteness of *sight* and *hearing*, for instance, can be expressed in terms of the distance at which a particular size of lettering or a sound of known intensity can be seen or heard.

For the measurement of *memory*, we devise material for memorising that is uniform in kind and difficulty in all experiments of a given series, whether with one person or a group of persons, and we record the amount learnt or forgotten in a given unit of time. Much work has been done for example with lists of nonsense syllables, such as the following :—Sav, Tid, Boj, Dut, Mox, Res. In this way we can make exact studies of such questions as the rate of learning, the length of time of retention, whether quick learners retain or forget more readily than slow, the rate of forgetting, the most useful methods of learning, the best distribution of repetitions, and other points of theoretical and practical importance, and we can grade individuals with regard to memory abilities.

We have just shown how we can measure *fatigue* by its

expression either in the diminution of the output of work uniform in kind over unit periods of time, or in its effects upon reaction time, acuteness of vision, and so on.

We shall see in a later chapter how we measure the growth of a *habit* in animals or man by recording the time taken to perform the whole movement in each successive trial, and the number of errors made in each trial.

In the case of the relatively simple mental processes, measurement is comparatively easy, but the higher and more complex qualities offer much greater difficulty.

The problem of the measurement of *intelligence*, for example, has occupied the attention of many investigators in recent years. Intelligence is obviously a very complex quality, many-sided in its expression. We know roughly what we mean by the term, and in everyday life we are constantly making practical decisions based upon crude estimations of people's intelligence (for example, in choosing an office boy, a foreman or a schoolmaster). We recognise roughly the various kinds of behaviour in which intelligence is displayed, and the psychologist's problem is to standardise a series of tests involving such behaviour to a greater or lesser degree. One of the earliest and most famous set of tests, the Binet scale, was primarily devised to meet the practical problem of sorting out and grading for educational purposes children who are mentally defective, that is, children who fail to reach the level of intelligence proper to their age.

Examples of the Binet tests[1] are the following :—

Age Eight.

1. " You know a butterfly ? "—" And you know a fly ? " —" Are they like one another ? "—" Well, in what way are they not alike ? "

The same questions are asked about wood and glass, and paper and cardboard. Two comparisons at least must be given correctly.

[1] As given in Binet's 1911 revision. Binet and Simon : " Mentally Defective Children ". The student should look up complete and revised series of tests as given e.g. in Terman : " The Measurement of Intelligence ", and Ballard : " Mental Tests ".

2. " You can count, can't you ? "—" Well, will you count for me backwards from twenty to nothing ? Begin 20, 19. . . ."

One error is allowed, but the task must be finished in twenty seconds.

3. " What is missing in this picture ? " The child is shown one after the other three drawings of a head in which (*a*) the eye, (*b*) the nose, and (*c*) the mouth are missing ; and a body without arms.

The same question is put for each of the four pictures.

4. " Can you tell me what day it is ? "—" And will you tell me the date also ? "

The year must be given ; three or four days' latitude is allowed in the day of the month.

5. " I am going to say five numbers. Listen and repeat them after me. 5, 8, 2, 9, 1 ",—" Again, 3, 7, 5, 2, 0 ",—" Again, 1, 3, 7, 2, 9 ".

One success suffices.

Age Twelve.

1. " Which is the longer of these two lines ? "—" And of those ? "—" And of those ? "—" And of those ? "—" And of those ? "—" And of those ? "

This test is aimed at the suggestibility of the child.

The material consists of six pairs of lines, of which the first three pairs differ in length, the longer being at the right hand ; the last three pairs are equal. It is sufficient if the child correctly judges two of the last three pairs to be equal.

2. " I am going to read you three words. I want you to make a sentence and use in it the three words. The words are Paris, fortune, stream ".

3. " I am going to allow you three minutes, and I want you to say as many words as you can think of. Some children have said more than two hundred. Let us see how many you can do. Ready ? Start ".

In order to pass the child must say over sixty words.

4. " What is Charity ? "—" What is Justice ? "—" What is kindness ? "

Two correct responses are required.

5. " Put these words in their proper order and find the sentence which they make ".

Three cards are successively presented to the child, on each of which is very clearly written or printed one of the following sets of words arranged in three lines.

1. For—an—the—at—hour—early — we — country—started.

2. To—asked—exercise—my—I—teacher—correct—my.

3. A—defends—dog—good—his—master—bravely.

One minute is allowed for each sentence, and two correct answers are required.

An English psychologist, Burt,[1] finds " reasoning tests " of the following type very valuable :—

Seven Years.

1. Tom runs faster than Jim : Jack runs slower than Jim. Who is the slowest—Jim, Jack or Tom ?

7. I have bought the following Christmas presents : a pipe, a blouse, some music, a box of cigarettes, a bracelet, a toy engine, a bat, a book, a doll, a walking-stick and an umbrella. My brother is eighteen ; he does not smoke, nor play cricket, nor play the piano. I want to give the walking-stick to my father and the umbrella to my mother. Which of the above shall I give to my brother ?

Ten Years.

22. The doctor thinks Violet has caught some illness. If she has a rash, it is probably chicken-pox, measles or scarlet fever. If she has been ailing with a cold or cough she may develop whooping-cough, measles or mumps. She has been sneezing and coughing for some days, and now spots are appearing on her face and arms. What do you think is the matter with Violet ?

25. There are four roads here. I have come from the South and want to go to Melton. The road to the right leads somewhere else : straight ahead it leads only to a farm. In which direction is Melton—North, South, East or West ?

[1] C. Burt : " The Development of Reasoning in School Children ", " Journal of Experimental Pedagogy ", Vol. V, Nos. 2 and 3. We do not give the complete set for each age quoted.

Thirteen Years.

43. What conclusions can you draw from the following facts? Iron nails will not float in a pool; a cup of pure gold dust weighs nearly twenty times as much as a cup of water of the same size; if you drop a silver sixpence or a copper coin into a puddle, it will sink to the bottom; a cubic inch (about a tablespoonful) of water weighs less than half an ounce; a cubic inch of brass weighs over two ounces; a leaden weight will drop to the bottom of the ocean. Sum up all these observations in one short sentence of the following form: "Most — are — — — —".

Fourteen Years.

46. John said: "I heard my clock strike yesterday ten minutes before the first gun fired. I did not count the strokes, but I am sure it struck more than once, and I think it struck an odd number." John was out all the morning, and his clock stopped at five to five the same afternoon. When do you think the first gun fired?

It is clear that some such objective tests, the results of which can be evaluated precisely and set out clearly for comparison, are likely to be more reliable than crude observations and descriptive terms. It is equally obvious, however, that the psychologist cannot prepare his scale of tests quite arbitrarily—the tests themselves have to be tested by the degree to which practical life confirms or corrects their results. If, for instance, the psychologist were to grade a number of individuals according to their supposed intelligence by a particular series of tests, and then in the practical concerns of life in school, factory or office, the psychologist's A's turned out to be C's, and his C's B's, we should agree that the tests were not very valuable. Whereas if the experimental grading ran closely parallel to the actual achievements of the individuals in practical life (other things being equal), we should feel fairly confident that they did test intelligence. In other words, we estimate the value of a particular test or series of tests by the extent to which its results *correlate* with the facts of practical life, and with other tests. Since intelligence tests were first devised, they

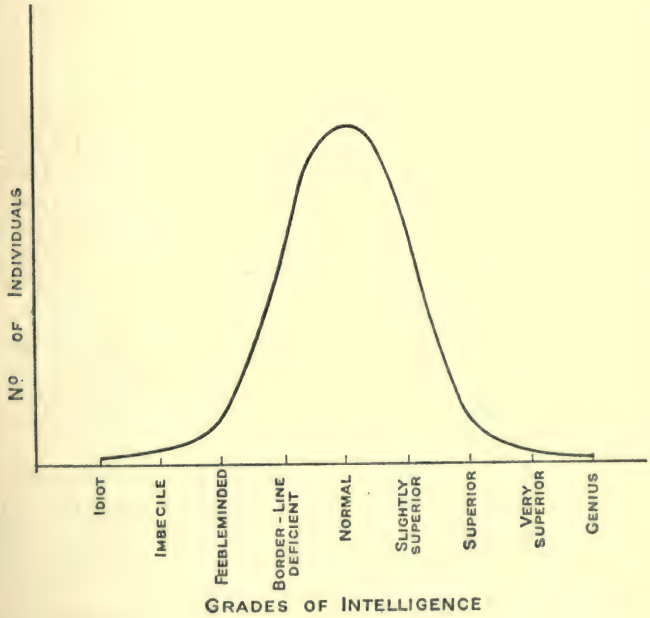
have been constantly tried out, altered, rejected or justified by this factor of correlation.

Statistical Aids

For methods of determining correlations, as on many other points, we seek the aid of the statistician, who provides us with valuable instruments for handling our psychological data. Correlation formulæ have played a great part in this problem of intelligence. The question of whether there *is* a general ability, or whether we merely have a multitude of special abilities (quickness of perception and motor response, memory, association, judgment, reasoning and the like), can only be attacked by measuring all these latter directly and then finding out their correlations. Many psychologists are now satisfied that there is such a general ability, a " central common factor ", running through all the specific abilities, for *on the whole* it turns out that the individual who is good at one thing is good " all round ". This general factor *is* intelligence in the view of these students. Some specific abilities, however, such as the power to see relations (involved in the reasoning tests quoted, for example), are more highly saturated with this general intellective efficiency than others, such as sensory acuity, speed of perceptual response, or rote memory ; for tests of the former type show a higher correlation with each other and with success in practical life than do the latter.

In referring to the Binet tests, we spoke of the level of intelligence " proper " to a certain age. This is another point at which we have to consult the statistician, for clearly we cannot set up an arbitrary standard which a child of a given age *ought* to reach. If we say he " ought " to reach such and such a standard, all that we mean is that *the majority of children actually do* reach that standard. In other words, we arrive at our standard by reference to the " normal curve of distribution ". If for any given age we plot out a theoretical scale of intelligence, ranging from the lowest possible, let us say that of an idiot, to the highest possible, which we

may call genius, with equal intervals of increase and decrease between these, and we then count the number of individuals actually displaying each degree of intelligence, we find that there are very few at each end of the scale, but that the majority are crowded together in the middle ranges of mediocre or "average" intelligence. The curve of distribution, like the curves produced by firing shots at a target or by measuring stature, tends to take a regular form such as this :—



In preparing a scale of tests, therefore, we have to try them out upon a large number of children of each age. A test which can be passed by *all* the children of let us say nine years of age is obviously too easy for that age, and

represents a level of intelligence somewhat below the norm; whereas one so difficult that only a small percentage of nine-year-olds could pass it would pick out not the normal but the supernormal child. A satisfactory test for any given age is one that a large percentage, but not all, of the children of that age can readily pass; in other words, it is a test the results of which *approximate* to the normal curve of distribution.

These are brief illustrations of the many points at which the psychologist draws upon mathematical and statistical devices in the technique of mental measurement.

Case Studies

We may finally refer to a method in which experiment and observation are combined, a method of the greatest importance in medical and in criminal psychology, that of *case studies* of individuals.[1] A boy convicted, let us say, of some minor default, is (by some enlightened courts) referred to a psychological clinic for examination and suggestions as to treatment. He is subjected to a careful and detailed medical inspection, and with this picture of his bodily condition in mind, his mental traits and abilities are then studied. His temperament and general emotional characteristics (excitability, sluggishness, moroseness, facile response, and so on), and the strength or ready excitability of specific instincts and emotions (fear, anger, jealousy, affection, etc.) are observed. Any abnormality or defect in emotional equipment is carefully noted. His intellectual capacities are studied experimentally, with regard to the level of his general intelligence, and special defects or abilities in sensory and motor functions, memory, attention, judgment, reasoning powers and so forth. General and special deficiencies or irregularities are examined with particular care. In this way a detailed picture of the character and intellectual powers of the individual is arrived at, and this is interpreted further by whatever knowledge can be gathered of his

[1] See W. Healy: "The Individual Delinquent".

personal and family history, school and employment records and social background. On the basis of such an intensive study of each individual case, it is reasonable to make a diagnosis of the special disturbances in social adjustment, and to prescribe a remedial treatment.

CHAPTER III

FIELDS OF INQUIRY

IT will readily be understood that a science covering so great a range of phenomena as we indicated in Chapter I will necessarily have many special fields of inquiry. We may briefly consider what the more important and well established of these are, always holding in mind, however, that they are not marked off by any sharp boundaries. They overlap and affect each other in the most intimate way, the distinction between them being mainly a matter of emphasis and convenience.

Normal Human Psychology

The main concern of academic studies was for long the discovery of the general laws of mental life as a whole, and this remains a very large and important branch of our science. We want to know what kind of behaviour to expect in a general way of the normally constituted adult, and we wish to discover such general tendencies with regard to all the main aspects of mental life. We inquire e.g. into the laws of habit and memory, into the interplay and expression of emotions, into conscious and unconscious motives of action, into the imagination and the processes of thought. These general studies may be spoken of as *normal human psychology*.

Genetic Psychology

Very early in our study of the mind of the normal adult, however, we find that we cannot understand him as he is unless we study his development. We cannot gain any

insight, for example, into character, unless we approach it from the point of view of growth, discovering the primary tendencies, the natural impulses of the young child, and the manner in which these become altered by experience. The child is very truly father of the man, and there is unbroken continuity of development from infancy to maturity. The special study of this aspect of psychology is spoken of as *genetic psychology*. The genetic method does not merely catalogue the facts of mental life (senses, emotions, reasonings, etc.) at each stage of growth, but seeks to interpret each stage as growing out of what has been and as determining what is to come. It asks for the value of each fact in relation to the vital process of development. Whilst, however, we recognise this as a special study, it is essential to appreciate the fact that all psychology is genetic, in the sense that it regards the mind as subject to growth and development. Our general psychology must be permeated by the genetic point of view, if it is to be of worth, for it is always dealing with life.

Comparative Psychology

We find, moreover, that this study of genetic psychology in its turn leads us out into still wider fields. We have already emphasised the basic importance of the biological outlook in psychology, and we are able to gain insight into the native impulses of the child,—those primary tendencies which form the raw material of human nature—only in so far as we regard him as a living creature in dynamic relation with his environment. We have to examine his behaviour in the light gained from the study of the purposive activities of other animals. This is the standpoint of *comparative psychology*, which makes a study of the behaviour of every type of living creature, from the simple responses of unicellular organisms to light, heat and chemical changes, to homing and nesting in birds, habit-formation in rats, colour-vision and " reasoning " in dogs. The development of this branch of our science has had the most profound influence upon the orientation of psychology as a whole. It constitutes a

fascinating chapter of recent science in itself, and is no less important for its own contributions to our understanding of human problems.

Social Psychology

Another relatively young department is *social psychology*, the study of the mental relations of human beings in society. Here we are concerned with the individual only in so far as he is a member of society, exerting his own measure of influence upon its total character, and showing in his own nature and behaviour the results of its pressure upon him. The mental life of society finds collective expression in laws, customs, traditions, institutions, religions and forms of government, yet its actual existence is in the modification of the character, conduct and beliefs of its members by the fact that they live in definite relationships with their fellows. There is no " mass mind " as a separate entity ; there are individual minds, and these cannot be added together ; but they can and must profoundly modify each other. It is in just this modification, this shaping and controlling of the beliefs, desires and ideals of each member of a society by the structure of the common life, that the mind of society consists. In many social phenomena, it is true, it would superficially appear as if individuals were transcended and the group acted as an independent psychological entity. Such facts as the spread of rumours and panics, lynchings and revivals, war-fevers, and characteristic national reactions have led to the use of the familiar terms " mob-mind ", " group-spirit ", etc., and for certain purposes of discussion these terms are adequate and useful. They are, however, no more than convenient forms of reference to phenomena which in the last analysis are facts of the behaviour of the individual body-mind. Under certain physical and mental conditions, such as, for instance, the presence of a large crowd in a theatre when there is a sudden alarm of fire, individuals tend to feel and to act on the level of simple innate tendencies which are common to them all, and which are reinforced by the common perception of the common

emotion. In more permanent groups, such as the family, village, club or nation, essentially the same fundamental situation occurs, but in these cases the higher levels of thought and action are involved, and the characteristic reactions are not the expression of simple innate tendencies, but of common habits, beliefs and sentiments built up in the course of a common history. It is, however, in all cases, individuals who are acting and feeling. Social psychology is thus not cut off by any sharp division from psychology in general; a complete understanding of the mental processes of the individual,—normal psychology,—will involve a knowledge of his social self. Indeed he cannot be adequately studied apart from his relations with his fellows, for his sociality is as truly himself as his individuality. Historically there was not first a number of completely isolated individuals and later a society; there has been development in complexity and breadth of societies, but always there has been some kind and measure of intercourse. Each self has had to deal with other selves in a world of human relationships, and Mowgli and the " wild boy of Aveyron " represent not primitive, but abnormal conditions. The distinction between social and general psychology is thus largely a matter of emphasis.

Individual Psychology

All the fields of psychology so far discussed are concerned with the formulation of general laws, applicable to human beings or other animals as a whole, albeit from a special standpoint. So long as psychology was largely an academic study this interest in general laws was dominant. In recent years, however, the science has come into close relationship with a wealth of practical issues in every aspect of human life. The teacher and parent, the legislator, judge, doctor, and lawyer, the employer and politician are now turning to psychology for aid in all those practical problems into which human nature enters as a factor. And these practical workers have quickly discovered that widely general laws, while of value in directing their inquiries, do not go nearly

far enough. The teacher, for example, having assimilated generalisations about "The Child" and his development, found that it was Mary Jones or Tom Smith with whom he had to deal in the class-room; and generalisations gave little insight into the particular behaviour of these individuals. Similarly the doctor and the judge find themselves always called upon to understand and make decisions with regard to individuals, not types. Interest has, therefore, under the stress of these practical pursuits, shifted from the general law to the individual case. After all, the individual is the concrete living entity before us. The psychologist has thus ceased to regard as tiresome exceptions the individual variations from a general law, which occur with every type of mental process. He has come to look upon these individual differences as phenomena worthy of the greatest respect and attention, and has devised special experimental techniques, and special methods of treating data which are designed to reveal instead of blurring such individual differences. This aspect of our science we may designate as *individual psychology*, remembering, however, that it is a point of view rather than a department, for it may be applied to any particular psychological material.

The more practical aspects of psychology which have been developed in recent years have sometimes been spoken of as "*applied psychology*". This term, however, is not free from objection, for it tends to suggest that we first arrive at our general truths independently of any special fields or data, and then go to these concrete situations and "apply" our formulations there. Such was indeed somewhat the accepted attitude a few years ago with regard to the relation between psychology and education.

The "psychology for teachers" that was offered was a product of the philosopher's study and the laboratory. The teacher was supposed to "apply" it to his own particular problems. Needless to say, it was a very barren product, and unfortunately tended to make the practical teacher suspicious of the psychologist's patronage. Now, however, we realise that the psychology likely to be of value in these

special practical fields is the psychology that is hammered out on the spot. It is the dynamic relation of the child to his fellows, his parents and the teacher himself which is of interest to the teacher, and that can only be understood by direct observation. The reactions of the child in any concrete situation must be studied as a problem in itself, and for its own sake. Only so can we arrive at any real understanding of it.

The same holds good of any other aspect of practical psychology. We may usefully speak of *practical psychology* if we need a general term, for the trend of these special studies in, for example, education and industry, is distinctly practical, aiming at the ultimate prediction and control of the situations investigated.

The Psychology of Education

The psychology of education has already attained to a high rank of importance and usefulness under the stimulus of this sounder point of view. The practical psychology of the various school "subjects", the problems of testing and grading individual differences in mental ability and social capacity, the psychology of games, the responses of children individually and in mass to particular forms of school organisation and "discipline", their emotional reactions in certain social relationships, these and a host of other problems of vital significance are being attacked. There is far more yet to be learned,—we are indeed still in the stage of discovering our ignorance; but already we have been able to gather such sound knowledge about some of these problems as profoundly to affect our educational methods.

The Psychology of Industry

This is another practical field which is developing its own technique, and is growing rapidly in importance and the number of its workers. Every aspect of industrial life can be approached from the psychological point of view. The play of the emotions and instincts, of fear and anger, suspicion and rivalry, as these are displayed in the special

social relationships created by large industry; the motives affected by different systems of payment and different forms of management and discipline in the workshops; the detailed study of the movements involved in skilled operations with a view to the economy of human effort; the various conditions that create undue fatigue; the most profitable hours of work and rest; the causes of accidents; the question of training and of the proper selection of workers for particular jobs and in particular, "vocational selection" for young people entering industry—these are some of the important questions which are now being investigated, and to the solution of which we are already able to make a positive contribution. Commerce also has great interest in the results of psychological studies on such matters as the most effective methods of advertising and of salesmanship.

The Psychology of Legal Problems

The psychologist has significant contributions to make to questions of legal procedure. He has something to say, for example, about the jury system, and about the general conditions of reliable witness and the value of testimony under oath.

The most important aspect of psychology, in relation to the law, however, is the study of the criminal himself. The attitude of the authorities and of the public with regard to the treatment of criminals is undergoing rapid transformation owing to the influence of the psychological point of view. It is no longer possible to look upon the delinquent as a perfectly normal person who simply chooses to do wrong. Anti-social conduct is to be regarded as the expression of some psychological maladjustment or deficiency, and we are coming to see that before we can reform the offender or know how to treat him with justice we must understand him. And to understand him requires profound psychological knowledge and an intensive examination of the mental abilities, temperament, and emotional traits, as well as the personal and family history, of each individual offender.

Medical Psychology

The psychology of crime, indeed, belongs in many respects to another department of practical psychology, of the highest possible importance to human welfare, viz., *medical psychology*. In this field we are directly concerned with disturbances of the mental life, with behaviour that departs in a greater or lesser degree from the normal. Every variety of mental ill-health comes within the range of this study, from the simpler cases of excessive " nervousness ", mental obsessions, compulsive and inexplicable fears, and over-anxieties, to the major disturbances which we call " insanities ".

Nowhere perhaps is the influence of a sounder psychology more apparent than in the contrast between modern methods of dealing with the insane and the terrible treatment accorded to them less than a century ago, when the grossest physical misuse was considered essential for these sufferers. We are still far from such a complete understanding of the major disturbances that we can be certain of alleviation and cure, but we know that now we are at least on the right track of research. We have ceased to be content with the mere description of the surface symptoms of mental disease, and we are now able to penetrate far more effectively into the deeply underlying dynamic tendencies where the source of the trouble lies.

Popular interest has been directed to medical psychology in the last few years owing to the frequent cases of " shell-shock ", or " war-shock ", various forms of mental disturbance arising under the trying conditions of modern trench warfare. These wartime cases do not differ essentially from civilian cases of mental trouble, but their occurrence has helped to bridge the gap between medicine and psychology. Faced with these cases, the medical man has had to equip himself with a knowledge of recent psychological science, and on the other hand, the general psychologist has had greater opportunity of becoming familiar with mental disease. Abnormal psychology is, indeed, no less important for its contributions to our general insight into human nature than

for its immediate practical services. For we must realise that there is no sharp demarcation between the normal and the abnormal, the healthy and the diseased. Fundamentally the same psychological forces are at work in the sane and the insane, although the final adjustment may appear so markedly different. Moreover there is every variety of borderline case between the two. The study of the abnormal has done much to reveal the inner structure of the mind, and the mechanism by which adjustment to social life is affected. A disease is indeed a kind of natural experiment. When a hitch occurs in the process of adjustment of the individual to his psychical environment, its workings are revealed,—discoveries that might never be made if all went smoothly. An intimate and constant relation between normal and abnormal psychology is essential, for final theories of human nature must clearly be such as to embrace all the facts, both of health and of disease.

Psychoanalysis

Another highly specialised field of research, so specialised, indeed, as not yet to be entirely in focus with the general body of psychological doctrine, is that known as *psychoanalysis*. Properly speaking the term should be used to refer to a method, but commonly it is also applied to a conception of human nature built upon the results yielded by that method. We shall speak of the method in a later chapter. Here we may say that it is designed to reveal those unconscious determinants of the conscious life to which we have had reason to refer. The most intimate aspects of the emotional life, and the unconscious mechanisms of character-formation, inaccessible to ordinary psychological method, are laid under observation by this technique. Unconscious tendencies are found to reveal themselves in our dreams, in the fantasies of art and literature, in the myths of primitive people and the folklore of peasants, in the trivial mistakes and " forgettings " of everyday life, in the ravings of a " madman ", and in the development of a great religious system. Psychoanalysts emphasise the fundamental significance of

these unconscious factors far more than psychologists in general have previously been inclined to do. While, however, there remain many points of controversy as regards detailed factors, the main contentions of this school have been amply substantiated by the evidence.

One of the main developments of the near future is likely to be the closer assimilation of the special conceptions and technical language of this school to those of more orthodox psychology, each greatly modifying the other. In its origins, psychoanalysis was an offshoot of psychological medicine, for the thinker to whose genius we owe its first and most important developments,—Freud,—was then principally interested in pathological cases. It is no longer true, however, that this study is mainly concerned with the abnormal and possibly therefore inapplicable to the normal, for the psychoanalytic method has now been applied to a wide range of " normal " personalities and phenomena. Psychoanalysis has indeed helped to demonstrate still more clearly that " normal " and " abnormal " are merely relative terms, and that the same psychological mechanisms are operative in both.

PART II

SOME GENERAL PROBLEMS OF PSYCHOLOGY

CHAPTER IV

THE "WISH"

Life Energy

WE have seen that psychology is a branch of biology, the science of life. One characteristic of life is change, for wherever life is, there is change. And this change appears to be determined more from within than from without, more by the inner nature of the living creature than by the external conditions of the environment. We are accustomed to recognise this, and perhaps to over-state it, with regard to human beings. Some of the most careful observers hold that it is true, although probably to a less degree, in the case of even the simplest organisms. We may cite one example of this, in the life of the unicellular organism, *Amœba*. This minute creature, a naked, jelly-like speck of protoplasm, lives in the debris at the bottom of fresh-water ponds. Its reactions are few and simple; it can move towards or away from objects, by means of "pseudopodia",—protrusions of its own body which flow in any direction in response to external stimuli. It can injest and void particles; and these, in addition to inner physiological activities, and the special behaviour to be described, make up about the sum of its possible reactions. Normally, *Amœba* is in contact with soil surfaces or other solid bodies. If, however, it finds itself suspended in water, completely

free of any surface, the organism may throw out " pseudopodia " in every direction until it seems to be nothing but a number of slowly moving filaments of protoplasm, scarcely held together, which reach out until contact with some surface is made. Then the pseudopodium in touch with the surface applies itself, the others being gradually withdrawn until the normal shape and movements of the creature are resumed. Although physico-chemical changes certainly condition this response, and the equally distributed pressure of the liquid and absence of any contact must act as the immediate stimuli, its behaviour is clearly the expression of some extremely complex, highly unified and perhaps largely self-determined inner changes. The behaviour of living creatures is thus to a very real extent self-initiated and self-sustained, an expression of those inner rhythmic processes in which life consists; and yet bearing the closest relation to environmental changes.

That relation, which every organism seeks to maintain with its environment, is essentially a dynamic relation, a moving equilibrium, such a relation as will best sustain and allow the fullest expression of the characteristic form of the life-energy of the organism. We say " seeks to maintain ", because the living creature does appear to exhibit this positive activity towards its environment, this definite reaching out towards the full means of manifestation of its characteristic form of life.

Now we require a word with which to refer to this positive activity, and it has been variously termed by different thinkers as an " urge," *élan vital, libido.* The objection to the use of this latter term is that many writers apply it not to the life-energy as a whole, but to sexual craving in particular. A term which is now gaining currency among some psychologists (whom we shall follow), is *horme.*[1] For our purposes, we may legitimately think of this *horme* as a bio-psychic energy, having simpler and more complex forms of expression, consciousness being a character attendant

[1] *See* T. P. Nunn: " Education, its Data and First Principles ", p. 21.

upon the higher levels of activity. It would appear, moreover, that each organism has an original endowment of *horme*. We may consider it, if we feel the need of a metaphor, as a reservoir of energy upon which the organism draws for all biological purposes. (Such a metaphor is useful, provided we remember that the energy *is* the organism, considered functionally.) That energy, for each living creature, finds expression in the specific forms of behaviour appropriate to and characteristic of itself. It rarely appears as a formless impulsion, but normally as a concrete series of responses to a concrete situation. There may sometimes be a vague formless tension or unrest which becomes specific upon the appearance of the appropriate releasing stimulus.

I am, for example, engaged in writing or reading, and presently begin to lose interest in my occupation, to feel vaguely bored or irritated, and ill at ease. After a time the gong announces dinner, and at once I realise what was the matter with me,—I wanted a meal. And now my impulsion is quite specific, and the appropriate reactions occur. Being a conscious and reflective animal, I should probably have realised that I was hungry, had I really thought about my condition, before the gong reminded me. Sometimes we seem to see a similar vague unrest in animals who possibly are not able to " know " what is their need, great though it may be. An example is the case of a puppy who misses a master to whom he is devoted. A state of unusual tension is clearly apparent. He sits moping, devoid of interest in the small events which usually excite him, or wanders about nosing every corner and pricking his ears at every distant footstep. When his master returns, the transports of leaping and yelping and licking show that *this* was what he wanted, and the tension is relieved by appropriate behaviour. His *horme* finds definite expression in a specific response to a concrete situation.

The Dispositions

Taking this example further, we should say of the puppy that it was his " nature " to act in such a manner upon the

return of his master. If upon some occasion he failed to do so, we should feel surprised, and look for some definite counteracting influence, perhaps a strong temporary interest in a bone, or fear of a whipping for some forbidden act just committed. What do we mean by saying " 'Tis his nature to " ? Why do we think we can, within certain limits, predict what he will do upon a certain occasion ? Why do we think the same, with a greater margin of error, in the case of human beings ?

Consider, for example, the distribution of pleasure-seekers during the holiday month of August. We know, without examining the records, that the great mass of holiday-makers are crowded together in seaside or inland towns, jostling each other on sands or pier or promenade, filling to overflow every available place of accommodation. We know that if we walked along the " front " at Brighton we should find miles of seats, nearly every one occupied, and the whole area thronged with those who find pleasure in the noise and laughter and stimulation of close contact with their fellows, whereas the beautiful downs behind the town would remain quiet and remote and sought only by a handful of visitors. We know that the same will be true next year, and the year after. Doubtless every one of those individuals who crowd the pleasure resorts feels " free " to go to the mountains or the moors, if he choose. And particular individuals here and there may so choose occasionally. But the fact remains that the great majority continue to frequent the towns ; and we feel so certain that they will do so, that we proceed to " develop " the popular resorts by providing means of further entertainment and hospitality with a very reasonable hope for a successful return upon our outlay. As another case, take that of the fond mother whose child is ill. Do we not feel pretty sure what the mother's actions will be ? Can we not safely forecast the devoted nursing and long patient care ? Or if the child is in imminent danger, say, from a runaway horse, do we not know that, in the majority of cases, the mother will immediately and without reflection face that danger herself in order to protect her offspring ? We can

forecast the behaviour of mothers in general, with a small margin of doubt. Of a particular woman, if we know her well and understand the situation, we can predict responses with a very high measure of probability.

Such a reasonable certainty as to the behaviour of human beings in general, and the particular conduct of particular individuals whom we know intimately, lies at the very foundation of social intercourse and of civilisation. Why do we tell our secrets, or entrust our business to one man, and not to another? Why do we consign ourselves and perhaps all our material possessions to a ship travelling the far ocean? Because we know that the whole interacting systems of behaviour of the numbers of people upon whose activity the existence of the vessel and the course of the voyage are dependent are in the main reliable and predictable; and, in particular, because we are aware that the special direction of the ship is in the hands of an officer whose behaviour can be relied upon with an extremely high degree of probability. The railway ticket we receive in return for hard cash, the value of the hard cash itself, and indeed the whole system of currency, without which we can hardly move a step under modern conditions, are all symbols of this reasonable predictability of human behaviour in the mass, and of the special responses of certain individuals in particular. The possibility of friendship and family life springs from the same conditions. In spite of the human boast of "free will", our complex social relationships are actually based upon the fact that, with a margin of error, we do know what the reactions of ourselves and other people will be in most circumstances. We recognise, then, that a man or any other animal will behave in such and such a manner, when confronted with such and such a situation.

Yet at the moment when we make the prediction, he is not behaving so, the situation not then occurring. What do we mean by expecting a particular type of conduct from a particular creature? We mean that there are *now* in the inner organisation of that creature certain conditions which will issue in that conduct on the appropriate occasion.

We have to recognise *tendencies* to behaviour, existing in some real sense in the make up of an organism, which is not yet behaving in the manner under consideration. If we hold a carrot under a donkey's nose, if we tread on the toe of another person in a crowded 'bus, if the maroon announces the approach of enemy air-craft to a crowded city, we know a good deal as to what the result will be, beforehand.

We can only express these facts by saying that there are tendencies to a particular form of behaviour in each case. And the " nature " of each creature is just the sum of those manifold tendencies to behaviour which it exhibits on each proper occasion.

This is to say again what we remarked a little earlier, that the life-energy of each organism finds expression in forms characteristic of itself. Now, however, we are regarding it as potential rather than actual behaviour. The *horme* actually exists in these specific tendencies or " dispositions " towards specific behaviour. Both the descriptive terms " tendency " and " disposition " express the most important aspect of these inner conditions of response, viz. their dynamic character. The conditions are not static. They do literally *tend* to realise themselves, the organism is truly *disposed* to act in such and such a way. We shall see, at a later point, how significant is this striving or impulsion.

In the ordinary way we take these tendencies or dispositions for granted. They are amongst those obvious things which we overlook. If we ask the laughing crowd at the seaside resort why they go to the promenade rather than to the moor, they may answer " there is more fun there ! " They do not stay to justify the passion for " fun ",—pleasurable excitement is so obviously desirable. *Of course* we want it ! It is just the way most of us are made. That as a matter of fact is the point of view to which students of behaviour have returned. We now agree that we do behave in this or that way, we do desire such and such a thing, because that is " the way we are made." In other words, we recognise that our behaviour springs from these inner dispositions or impulsions.

The Rationalist's Fallacy

The sophisticated student of human life has not always taken this view. Not so very long ago we should have said that the crowds sought the fashionable parade because they had calculated that it was in their " self-interest " to do so ; because they considered it rationally justified. The earlier thinkers committed the " intellectualists' fallacy." In other words, being themselves naturally reflective people, accustomed to ponder courses of action and human motives in general, they tended to believe that all the world was built upon their lines, and that cold " reason " was the source of human actions. Macaulay, e.g., remarked, " When we see the actions of a man we know with certainty what he thinks his interests to be ".[1]

Such a view entirely overlooks the frequent cases of people who continue a certain line of conduct, as e.g. drug-taking, " drinking ", gambling, which they are very well aware is completely opposed to their " self-interest ". An attempt has sometimes been made to get out of this difficulty by a verbal quibble to the effect that *in the moment of action* the drunkard thinks it is in his self-interest to drink. In the moment of action, he hardly thinks at all, but is simply swept away by an irresistible impulse ! And even the philosopher himself has been known to act in ways that may appear to other people very foolish,—if e.g. he falls violently in love with a pretty maiden, his philosophy hardly serves now to differentiate him from other men in similar plight, for it seems to make very little difference to his behaviour. Does he now play Romeo because it is to his self-interest ? It may not be to his interest, from the point of view of his ambition, or worldly success. And, in so far as it is so, for the satisfaction of his common needs and affections, what makes this his self-interest ? Simply the fact that " 'tis his nature to ",—he is so built that passion or the domestic affections must have sway over him sometimes at least. In other words, his conduct appears " reasonable " because he has such a tendency, such a need. He does not have the impulse

[1] " Edinburgh Review ", March 1829, p. 185.

because it is rational ! The motive, the spring of action, is one of those fundamental dynamic tendencies in which his life-energy finds its expression. And being an intelligent creature his reason finds its justification in the service of the greater or lesser dispositions which form the driving force of his behaviour.

(We hasten to add, in parentheses, that matters are not in reality nearly so simple as this passage would appear to imply. Our philosopher may of course hold in check and master his impulses, by his " will power ". We shall see later that such self-control is not actually so different from impulsive behaviour as it appears to be. The fundamental springs of conduct remain the same throughout, no matter how their expression may be complicated and modified.)

The intellectualist's view of human actions has however been held by many thinkers, and has been of great historical importance. It was, of course, only possible so long as psychology was pursued merely in the philosopher's study, and so long as its interest was directed mainly towards human behaviour. Man *is* reflective to an infinitely greater extent than any other living creature ; and while reason does not and cannot provide motives, it can and does help to weigh down the balance between conflicting tendencies and to co-ordinate and build into a unity the motives given to us by nature. The earlier thinkers very naturally overestimated the power and misunderstood the function of reason. Their attitude was indeed part and parcel of the anthropocentric view of the Universe. The growth of natural science, and, in particular the acceptance of the evolutionary point of view, with its consequent shifting of attention from human to comparative studies of behaviour, made such an attitude no longer tenable. It was never possible to maintain that calculations of self-interest or any reasoned conclusions are the motives of action in creatures other than human. Their behaviour is very clearly the manifestation of native tendencies which are released by environmental stimuli. And the comparative method has enabled us to see that, in its essentials, human behaviour is of a piece with that of other

animals. There are of course very real differences; but these do not go down to the fundamental springs of action.

The question of how we came to make such an error is itself an interesting piece of psychology. We must not look upon it as due to a mere fault of understanding, a mere weakness of observation and argument. In part it was such a failure of observation, but " observation " is not a sort of plain glass window through which we look out on to the facts of the world, and see them as they are, uncoloured or undistorted by ourselves or by our instruments. It is rather to be considered as the mind itself at work in a special way upon the manifold data of external changes; it is an active selection by the mind of those aspects of reality which are relevant to its purposes, and which will (sooner or later) serve its needs. Our intellectual view of the world is liable to be highly coloured by our emotional trends and inner psychological necessities. Now in the long slow course of man's development from the primitive to the civilised, he has had to learn to curb his desires, to check the onrush of his impulses, to repress his emotions, in order to make possible life in an ordered society of mutually adapted human beings. It has been a difficult, a bitter lesson: and has been accomplished (in so far as it is accomplished), not only by the aid of conscious control based on ethical reflections, but to a far greater degree by certain psychological " mechanisms " which operate unconsciously. Intuitively aware of the conflict within himself, between his primitive egoisms and his more socialised tendencies, man helped himself to erect a barrier around the former by identifying his " carnal appetites " and primitive passions with the animal part of his nature, and by despising and condemning this as not truly himself,—not the essentially human. We are familiar with this view in the deliberate philosophies of many peoples, yet there is no doubt that the attitude lies far deeper in the human mind than any formulated conscious system of belief. The identification of the primitive part of himself with the wild beast is plainly operative in the dreams and fantasies of the individual of to-day as well as in fairy tale, folklore and

the myths of peoples. It has been a useful and probably essential instrument in the development of ethical control, but has served to confuse our early science and our view of man's relation to his fellow-creatures. For the animals themselves have had to serve as scapegoats, by means of which man was enabled to part from his disturbing passions.

We can moreover detect a further unconscious determinant of the view we are considering. There is a Greek myth of a beautiful youth named Narcissus who fell in love with his own image as reflected in a clear pool of water. The myth is but a dramatic crystallisation of a universal human tendency, the tendency to find pleasure and satisfaction in the contemplation of one's own beauty or prowess or goodness. In normally civilised individuals, the tendency operates in the main unconsciously; it would be considered indecent to allow it conscious play. Yet Man, looking on the achievements of the human race, and on his superiority to other animals in everything he thought valuable, has found himself an object of endless admiration, and has continually, throughout his systems of philosophy, his art and his religion, smiled with complacency at his own image. With Jack Horner he has always said "What a good boy am I!" (There have been, of course, many counteracting tendencies which are not in point to consider here.) We shall probably never cease unconsciously to value ourselves above all other creatures, and the self-respect thus engendered is necessary to our characteristic human development. It helps to prevent relapse into the primitive. From the point of view of our science, however, we clearly need to allow for such an influence in the estimation of man's place in Nature. And this Narcissism of the human race is largely responsible for our over-estimation of the value of reason. We have proudly said "Man is the rational animal"; and so he is, but he is none the less an animal. His reason is not the source of his motives, the spring of his actions; it is, rather, one of the various means by which these are harmonised, regulated and controlled. We may picture reason as the guiding hand upon the reins, but never as the fiery horses

that draw the human chariot. And, sometimes, indeed, when the horses get the bit between their teeth and bolt, the charioteer, rather than admit that he has lost control, will assume responsibility for the wild gallop, and even for the overturning of the chariot. We have, in other words, a strong tendency towards the " rationalisation " of our passions. We feel impelled to find reasons for desiring what we greatly long for ; to justify the courses of action we have decided to pursue,—for are we not rational beings ? The progress of psychological science, however, based upon a sounder understanding of our relation to our fellow-creatures, is enabling us to forgo this illusion, and to face the real facts of human nature. We have come to see that human, as animal behaviour, is the outcome of those fundamental " dispositions " which are the concrete forms of the original life-energy or *horme*.

The " Wish "

We may note a further descriptive term which has been given to such a tendency finding direct or indirect expression in behaviour, with particular reference to human behaviour, viz. *wish*. This term is in use mainly amongst psychoanalysts. It had, however, originally a narrower, more specific meaning than " disposition " or " tendency " as we have here employed these words. As used in everyday non-technical language, a " wish " is more than a mere impulse,—it is a conscious desire formulated more or less explicitly in words. Some of our wishes are, however, clearly incompatible with social demands, and we therefore inhibit them. We not only try to prevent ourselves behaving so as to satisfy such anti-social wishes, but we even try to prevent ourselves wishing them. And often, if we are socially sensitive, we refuse to allow our half-framed wishes to become explicit in our own minds, and later on refuse to admit that they were ever there, even incipiently. It is found, however, that these wishes are not destroyed by the attempt to prevent their issuing into action, or to deny them existence. Although the conscious life refuses them admit-

tance, they still clamour at the gate. They remain dynamic, and are often able to find an indirect channel of expression. Now the same sort of thing goes on at much deeper levels of the personality. There are tendencies in each one of us which we are incapable of allowing play in consciousness, in their native form, except under the very special conditions created by the technique of psychoanalysis. These deep unconscious tendencies are what the Freudians refer to as " wishes ". The fact that they are unconscious would seem to indicate the use of another term, if we would avoid confusion. Yet the psycho-analysts have done such immense service to our understanding of human nature by reinforcing the view that all behaviour issues from these dynamic tendencies, call them what we will, that the verbal confusion is an insignificant matter.

At this stage of our inquiry, we may thus usefully and legitimately consider the " wish " as essentially the same as the " disposition " of other psychologists. The latter term has perhaps the wider connotation, and there are differentiating characteristics of the " wish " as it is viewed by the psychoanalysts. Here we are dwelling on the identities, which for the moment are the important aspects. These identities are so significant that we have not hesitated to use the term " wish " as descriptive of the subject-matter of this section of our inquiry.

Interest and Attention

Before closing this chapter, we may with profit introduce in relation to our present point of view two topics which a little while ago bulked largely in such a preliminary account of psychological fundamentals, viz. *interest* and *attention*. We know in the ordinary way and for practical purposes what we mean by being interested in, say, a novel; we give all our available time to it until we have finished it, and count interruptions a nuisance. If we are interested in a person, we seek his society, and listen to what others may tell us of his history and abilities. If we are interested in some hobby, say photography or bee-keeping, we not only give our spare

time to it in proportion to our interest, but are continually on the look-out, in other people's conversation, in the magazines and illustrated papers, for pieces of information, criticism or advice. The mention by strangers of matters relating to our hobby will make us " prick up our ears ", and we listen involuntarily. This looking-out may not be systematic and deliberate; it may be simply that when we do come across a reference to our hobby, we are at once held by it and impelled to notice it.

One naive and strong interest which we all carry about with us is interest in our own name. Let a group of conversing friends or strangers, to whose murmurs we were not listening with any definiteness, pronounce our own name, and note the immediate change of attitude on our part! At once we listen eagerly,—until we remind ourselves that we must not eavesdrop, and a strong " effort of will " is exerted to prevent ourselves listening. In other words, when a word is pronounced in which we are interested we " attend " to the conversation.

And " attending to " an object consists essentially in putting ourselves into such a relation, physical and mental, with that object as will allow us to gain from it the fullest possible experience.

I am watching the flight of an aeroplane, for instance, with concentrated attention, being specially interested in it for one reason or another. Not only do I turn my eyes and focus them upon it, but every muscle, voluntarily or involuntarily, will be so adjusted as to support the most useful poise of my body for following the object with my eyes. The rate of my breathing, the distribution of my blood, pulse-rate, arterial pressure, and many other subtle processes in my body will similarly assist in the satisfaction of my interest, i.e. enable me to follow the flight to the farthest point, to note and interpret its movements with the greatest accuracy, so as to answer the incipient questions which its appearance provoked. Moreover, the course of my conscious images and thoughts will be most intimately affected by the direction of my interest. If it be aeroplanes in general and the

mechanics of flight, in which I am interested, the general set of my mind and the conscious images which accompany my observation of the flight will differ considerably from what occurs if I am concerned to decide whether it is an enemy or a friendly aeroplane. In other words, I shall " attend to " one or other aspect of the whole occurrence according as I am interested in this or that significance of the event.

The problem of attention is therefore the problem of interest. At one time, in trying to understand the phenomena of attention, we spoke of it as a " faculty ", or a tool which the mind possessed. Now we are agreed that " attention " as such is a mere abstraction, and that to think of it as any sort of a " thing " is by no means the most useful way of regarding it. The better way is again to express the whole matter dynamically in terms of behaviour. It is more than likely that the whole concept of " attention " will be discarded by psychologists in the near future, for the word inevitably suggests this misleading way of looking at the matter. What actually happens is that an organism adjusts its bodily and mental attitudes so as to be in the most adequate relation with significant stimuli in its environment ; and when this occurs on the conscious level of behaviour, we say that the organism " attends to " these stimuli ; that the object is " interesting " to the creature. (This is indeed but another example of the fact that the advancement of knowledge largely consists in putting our queries properly ! When rightly stated our questions often bear their answers on their own faces.) And what essentially is an " interest " but the readiness to function of an inner disposition, a tendency, a wish ? Objects and events and people have interest for us just in so far as they are significant stimuli for such dispositions, in so far as they lead to a response. That response may not be immediate, it may not be obviously " practical ", but a genuine and actual response there is on some level of behaviour whenever we are interested in an object. That is what we mean by being interested in an object or situation,—we have to respond.

Let us briefly consider a few examples: We take an Irish terrier out for a run over the moors. At home he is an affectionate obedient animal, but now he scents rabbit, and is off in a wild and noisy scamper, following the trail, and utterly deaf to our repeated cries and commands. We may say if we like that he does not hear our cries because he cannot "attend to" them,—he has found something of far greater interest. It is better to put it in terms of behaviour, and to say that the rabbit odour and tantalising glimpse of a white tail act as such effective stimuli to a deeply ingrained disposition of his doggy nature, that the relatively superficial disposition aroused by our voices has little chance to become fully operative. Yet we know that it is not without its effect, for when he finally returns to heel, does he not tend to cringe and show signs of fear of punishment? The total piece of behaviour is the outcome of the total tendencies released by the whole situation.

On the same woodland walk, we are accompanied by friends,—a landscape painter and a man of science. We know that the interests of these two men are very different, and that they will inevitably attend to different aspects of the same vista. One will note the composition of the landscape, the light and shade, the colour effects. The other will attend to the geological significance of the land, will note the rocks, the course of the rivers, the nature and distribution of the plants encountered by the way. The behaviour of the two men may differ correspondingly; one may bring out his collecting-tin, the other his palette and brush; the occurrence will be described in two different languages. The conscious experiences of the two men will be different; the view will indeed appear as two different objects to these two minds, for different dispositions are functioning.

It is true that our conscious appreciation of an object or event, our whole way of regarding it, depends in the most intimate way upon the dispositions which it "touches off" within us. Consider a fretful crying child in a crowded carriage on a long railway journey,—what very different aspects it wears to the mind of its own fond mother and to

that of an irate bachelor who has no love of children! And the new-laid egg which we enjoy for breakfast,—to us it is then a delicious thing to eat. On another occasion, with another purpose, it may be a zoological specimen to keep in our Natural History Museum. To the broody hen it can be neither of these; in the phrase of William James it is essentially a "never-to-be-too-much-sat-upon-object"!

CHAPTER V

ORGANISM AND ENVIRONMENT

Sensibility and Response

WE have spoken of the dynamic relations which the living creature maintains with its environment, and we must now inquire further into this relation. In order to sustain its life, and to sustain that life fully and characteristically, the organism must in the first place be sensitive to changes occurring in the external world : and in the second place it must be able to respond to those changes in an adequate manner. This is no less true of the simplest organisms than of those highly developed. *Amœba*, for example, is able to react in a negative or positive manner, i.e. to move away from, or towards all those stimuli which are significant for its inner organic processes, such as changes in light, heat, contact, and chemical or electrical conditions. In other words, *Amœba* shows the two fundamental characteristics of living creatures, with which we are specially concerned, as students of behaviour, viz. *irritability* or sensibility, and *contractility* or power to move in response to those external changes which are sensed. These are the two characteristics which enable the organism to maintain those inner changes in which life consists, by supplying itself with food, avoiding what would be inimical, and keeping itself under those external conditions which are best suited to its physiological needs. We may say that the first foundation of an organism's responses, their first *raison d'être* lies in the necessity for self-preservation and the maintenance of

the nutritive processes. In so far as the life-energy of the organism is expressed in behaviour which subserves and maintains its own nutritive processes, it may be spoken of as the *nutritional horme*. In the case of an animal so little differentiated in structure as *Amœba*, there are no special parts or organs set aside for the carrying out of these two functions of contractility and irritability. Stating it briefly and crudely, we may say that just as the whole organism digests and assimilates nutritive substances, so the whole organism is sensitive to external changes, and able to respond to these. Moreover, the whole organism is concerned in what may be termed the second great business of living creatures, viz. reproduction.

Reproduction in the case of the *Amœba* and its like is a relatively simple matter,—the division of one organism into two, under special conditions of nutrition and growth. So that here, the nutritional *horme* in a sense serves the end of reproduction also. In organisms somewhat further differentiated, however, the business of reproduction becomes relatively distinct, although doubtless always conditioned by subtle factors in the nutritive processes. Division does not now take place until there has occurred a union of two separate organisms. The functions of irritability and contractility have now to serve this end also,—two individuals have each to be sensitive to the presence of the other, and to move together in order that fusion, as a preliminary to division, may take place. This is the beginning of the sexual phase of reproduction. And in so far as the life-energy is expressed in behaviour directed to this end, it may be spoken of as the sexual horme or the *libido*. The sexual form of reproduction is not co-extensive with the whole of living creatures, and in a sense it may be looked upon as deriving from and secondary to the nutritive processes. Yet in all but the simplest organisms the sexual *libido* is of almost equal significance with the nutritional. The two are, moreover, even in the most complex creatures, not to be looked upon as completely distinct impulses; for on the purely organic level of behaviour, even in man, they have many common

elements in sensation, in impulse and emotion. To take one example of this, it is clear that the lips and their movements are at first in the service of the nutritional impulses; but before long they are also concerned in erotic satisfactions, and the kiss, which is clearly a modification of those movements and of the application of the lips to the maternal breast, has become (among Western Europeans) the universal preliminary to the complete sexual embrace. (Witness the covers of our popular magazines!) The common habit of thumb-sucking in later infancy and early childhood forms a bridge between the two functions of the lip tissue.

Self-preservation and reproduction are thus the two great biological ends, and the various responses of the organism to external happenings subserve these two fundamental purposes. We shall see later that these psycho-biological facts are of great significance for the understanding of human nature.

In the more complex animals, the various functions are carried out by specially differentiated structures. The digestive system, for example, is that group of internal organs concerned directly with the assimilation of food; the circulatory system with the absorption of oxygen; the sexual parts with the processes necessary to reproduction, and so on.

Yet these internal functions always remain dependent for their maintenance upon the two functions by which the organism is adjusted to external happenings, viz. irritability and contractility. In the highly differentiated organisms, there is present a complicated system of levers in the shape of highly contractile muscles and bones, or other hard parts, which serve the purpose of locomotion. The movements of the organism must be closely adapted to the actual changes in its environment if they are to serve its needs. This adjustment is brought about by the development of the nervous system, which is the differentiated organ of sensibility and of control.

Functions of the Nervous System

The essential functions of the nervous system are two: first, to mediate the sensibility of the organism to those

changes in its surroundings which are significant to it ; and, second, to initiate the responses of the contractile parts of the organism to those changes. The increasing specialisation of parts of the nervous system as we pass up the scale of complexity of structure is correlated with differentiation of function.

We have, first, the subdivision of the function of sensibility into the various " senses ". The organs which serve this function are spoken of as *receptors*, and each is specialised for sensibility to some particular kind of stimulus. There are those which are affected by stimuli coming from the outer world,—the eye by light, the ear by sound, various nerve-endings in the skin by pressure, temperature, and so on. These are termed *exteroceptors*, as they are concerned with changes external to the organism. The organism must, however, be also sensitive to the details of its own movements, if it is to respond adequately ; and this is made possible by the *proprioceptors*, special organs of sensibility lying in and delicately affected by the conditions of muscle, joint, and tendon. Further, there needs to be sensibility to changes occurring in the internal organs of the animal itself,—as e.g. the need for food and oxygen and the expulsion of waste matter, or disturbances in the normal organic processes. This need is served by the *interoceptors*, special nervous structures lying in the tissues of the alimentary canal. The organism is thus continually sensitive to all those internal and external changes which are significant for its existence and for its reproduction ; and this sensibility is vastly increased in range and delicacy by the greater differentiation of part and function occurring in the more complex animals.

Secondly, those nervous structures, the function of which is to initiate the responses of the animal to changes experienced, are also, in the higher organisms, so specialised and so placed within the body that those responses become not only more precise and facile, but also co-ordinated to a far higher degree of unity. The characteristic feature of a highly evolved nervous system is in fact the greater development of those parts which subserve the function of controlling and

co-ordinating a greatly increased variety of responses, in accordance with the total character of the stimuli received. In man these co-ordinating structures are enormously developed,—they are indeed the special feature of his nervous system. And, in consequence, he exhibits a far greater unity and complexity of behaviour than any other living creature.

We have now discussed two aspects of the relation of the organism to its environment. The organism is sensitive to changes occurring in the environment, and reacts upon the environment in accordance with those changes. If we put these facts into the language of the conscious levels of behaviour, we say that, on the one hand, the living creature experiences sensations caused by changes occurring in the world around it, these becoming unified into knowledge of that world ; and, on the other hand, it experiences certain impulses and desires which correspondingly become integrated into the will. In later chapters, we shall consider the building up of knowledge and the development of will.

Pleasure and Pain

There is, however, a third aspect of the organism's relation to its environment which we may discuss at this point, viz. the fact that the changes experienced and the responses made bring either pleasure or pain to the organism itself. The pang of hunger is painful ; the eating of a good dinner pleasurable. Confinement in a close room brings pain ; a walk over a breezy moorland pleasure. The parting and reunion of friends, success or failure in business and professional life, music and literature, every kind of experience brings to us either pleasure or pain (or both, in the case of complex experiences). We know very well the special quality of pleasure and pain, indefinable though it may be. The technical term by which we refer to pleasure and pain is " feeling-tone " ; and some feeling-tone, greater or less in intensity, appears to accompany every human experience. We sometimes speak of things being " indifferent ", but more exact observation will usually reveal some slight, perhaps

exceedingly slight, pleasure or pain, even in these cases. Now with ourselves and other human beings, even children, we know that pleasure and pain are very real conscious experiences, and as we shall presently see, important factors in behaviour. Can we say the same with regard to other animals? Certainly our dog *appears* to show "pleasure" when he receives the piece of sugar with which we have been teasing him, or when we call him to join us for a walk; he appears to show "pain" when we leave him behind, or scold him for some misdemeanour.[1]

His behaviour certainly suggests the presence of such feelings. Here, however, we are up against the great difficulty of interpreting the responses of animals which are at all dissimilar in structure to ourselves, in terms of our own conscious experiences. This difficulty has led certain American "behaviourists"[2] to say that we are asking questions which cannot and need not be answered. Nevertheless, it remains extremely probable that such an animal as the dog does feel pleasure and pain; and in the case of simpler animals, it is probable that there is always some element in the animal's total experience, some factor in its behaviour which, on its level of structure and function, corresponds to what would be pleasure or pain in ourselves, to what is "feeling-tone" when made explicit in consciousness. We may, therefore, having guarded ourselves against misunderstanding on this point,

[1] The student must learn to distinguish the "pleasure" and "pain" which are "feeling-tone" from the pleasure and pain which are specific sensations. The latter are the results of the stimulation of definite sensory organs, and are strictly comparable to sight and hearing and touch. Examples of such sensory "pains" are toothache, a burn, colic, an extreme thirst; examples of "pleasure" sensations are those aroused by taste and by sexual stimulation. In the above discussion we are not speaking of sensations, but of a psychical quality accompanying sensations, perceptions and images, and accompanying the success or failure of our purposes—the pain of the loss of a friend, the pleasure of the prospect of again meeting him; the joy of accomplishment, the misery of defeat,—these are feelings, not sensations. It is unfortunate that the terms are used in this double sense.

[2] See J. B. Watson: "Psychology from the Standpoint of a Behaviourist".

legitimately speak of pleasure and pain as influences in the behaviour of all organisms.

Relation of Pleasure and Pain to Dispositions

How do pleasure and pain operate in determining behaviour ? The organism (human or other) tends always to seek stimuli which are accompanied by pleasure, and to avoid those which bring pain. This is indeed one of the basic laws of the behaviour of living creatures. We strive to gain more of a pleasurable experience and to rid ourselves of a painful one. Appetition and pleasure, aversion and pain,—these are the universal correlations.

The history of psychology and of ethics is full of controversies about this law of behaviour. We humans make many subtle distinctions between " high " and " low " pleasures. We have been greatly shocked when some declared that the sole motives of human action were the securing of pleasures and the avoidance of pains. Such concepts as " duty " and " right " would not appear to fit in with such a psychological scheme. We are indeed only now coming to see how they do fit in. The gradual unfolding of the psychological story will remove this difficulty, which at first the student may feel. Apart from such difficulties, however, there have been many confusions of thought in this connection. We have talked e.g. of desiring " pleasure " and " pain " in the abstract, whereas it is always pleasurable or painful *objects* which we do seek or avoid. When the dog stands tense and expectant, licking his lips, while we hold high a tempting bone, it is an unnecessary confusion to say that what he wants is the pleasure of eating the bone. What he wants of course is *the bone.* When I go to hear a Beethoven symphony or to see a new picture, clearly it is the symphony or the picture I am seeking. That is the straightforward way of putting it ; and that is the psychological way of regarding it. Yet it remains a plain fact that I do seek those things which are pleasurable, and avoid those which are painful. It is true that some things we seek,—such as martyrdom,—have a good deal of pain mixed up with the pleasure. In the case of humans it is

the total and ultimate character of the experience which determines appetition or aversion. If the new picture gives me sufficient pleasure, I shall take another opportunity of seeing it; if it is distasteful I shall not care to see it again. If the bone which we give to the dog is smothered in mustard he will probably not be so eager next time we hold one out to him. He will examine it with eyes and nose before he snatches it so readily; and if every bone we gave him were similarly doctored, in the end he would refuse to touch them at all,—at least from us.

We may repeat that it is one of the fundamental laws of behaviour that responses, negative or positive, are conditioned by the painful or pleasurable character of the result of those responses.

It must at once be noticed that we say *conditioned by*, and not springing from. Behaviour does not take origin in the avoidance of pain and the search for pleasure. These are not sources of energy, but influences which determine the expression of that energy. It is the dispositions, the dynamic tendencies, the *horme*, the *libido*, which are the springs of action. But the actual manner in which the horme shall be expressed is in large part determined by experienced pleasure and pain. If we want a simple metaphor we may think of the libido as a stream flowing along its channel, its course being determined not only by its own force, but also by the condition of the banks through which it flows; and pleasure opens the channels, pain closes them. We have thus returned to the point we left at the end of the last chapter, the significance of the dispositions as concrete forms of the original life-energy. We must now consider a little more fully the relation between these dispositions and pleasure-pain.

This relation is complex, and here we cannot do more than touch very briefly upon some of its aspects. Two principles must be discussed. It would appear, firstly, that some experiences are intrinsically either pleasurable or painful; and secondly, that pleasure comes with the satisfaction of an impulse, and pain with defeat. As examples of the first principle we may cite the unpleasantness of a sudden loud noise,

of a severe electric shock, or a burn or toothache, of any sensory " pain ", of some combinations of colour and tone, and so on. These seem, at least at first sight to be just pleasurable or painful in themselves, apart from any desire or impulse we may have. Yet further inquiry tends to show that this is not always the case. Religious devotees e.g. have frequently inflicted upon themselves just those bodily ills which seem to normal people intrinsically painful, and have yet appeared to derive pleasure, and even ecstasy, from the self-inflicted pain. This is indeed one of the reasons why we at present make a distinction between pleasure-pain feeling-tone and pleasure-pain sensations.

Moreover, the two principles are not absolutely distinct, for we can only explain such an abnormality as that just mentioned on the basis of the second principle,—some strong impulse needing satisfaction even at the cost of what would normally be pain. On the whole, however, those things which do appear intrinsically pleasurable or painful are things that would help or hinder, not necessarily this or that specific impulse, but the *horme* as a whole, would, in other words, assist or destroy life itself in the long run. This is not true without exception, especially in the case of so complex a creature, living in so artificial an environment, as man. Biological adaptation is nowhere perfect, and perhaps least so with man. Yet on the whole and in the broadest way it remains basically true that the painful is the harmful, and that what brings pleasure is beneficial. It is perhaps hardly necessary to give many illustrations of the fact that the satisfaction of a tendency is pleasurable, and its defeat painful; the fact is so familiar if we reflect at all upon our experiences. We say e.g. that " revenge is sweet "; yet unsatisfied revenge appears to be by no means sweet; it appears as a very painful condition of tension, and it is the satisfaction of the impulse which is pleasurable. The instinct-emotion of fear, which seems in itself intrinsically and to a high degree painful, is seen to bring considerable pleasure when its aim is achieved, i.e. the removal of the organism from danger. Similarly when we are labouring under some manual or intellectual

task, interruptions and obstacles are extremely distasteful; and those occurrences which forward our work and its final completion, bring a sense of satisfaction marked in proportion to the tension under which we suffered. This again helps to make clear the fact that pleasure and pain are not the sources of our behaviour, but the conditions of its form.

Inherited and Acquired Dispositions

We are now brought to consider another fact of basic importance with regard to behaviour, viz. that it is to a greater or lesser extent *plastic*, its final form being determined by environmental influences working through experienced pleasure and pain. A common way of stating this fact is to say that dispositions are either " inherited " or " acquired ", and this distinction is easily recognised. The babe has e.g. a disposition to suck the maternal breast when brought into contact with the nipple. It has not to be taught to do this; it is an innate tendency born with it, an inherited form of response. Twenty years later (or less) the same human being may " acquire " the habit of smoking. Such a habit is clearly not inherited, but learned in individual experience. Again at a few months old the infant begins to babble spontaneously and presently to imitate the spoken word. This tendency is an innate disposition, depending on preformed nervous structures. At twenty years of age he may take up the study of French or Spanish, and thus acquire other habits, the result again of individual experience, for there is no inherited impulse to learn any specific language as such. We may cite these as examples of inherited and acquired responses. Yet we make a mistake if we distinguish too sharply between them. For " acquired " responses are really nothing but highly modified forms of original innate tendencies. The organism starts out with these inborn, more or less specific forms of behaviour, the primary tendencies characteristic of each type of organism; and, under the influence of the pleasure or pain resulting from the mutual interaction of *horme* and environment, these later became modified into what we describe as " acquired " dispositions. We may safely say that there is never any acquired

tendency which has not its roots in some original or innate disposition, or in several. The further we carry the genetic study of human and animal behaviour the more is this fact brought home to us, and the more completely are we able to trace the concrete transformations through which the original *horme* passes in the development of personality.

At an earlier point, however, we had occasion to remark that organisms differ very greatly in the degree to which they possess this character of educability. The simplest organisms show it hardly at all; in other words, their responses are fixed and rigid, being determined almost entirely by inherited structure, individual experience having scarcely any effect upon them. We have not space here for illustrations of the fact that with increased complexity of structure and response there appears an ever-increasing capacity for profiting by the results of individual experience. Man exhibits this educability to a supreme degree. We might say of him with far greater truth and insight that he is *the learning animal* than that he is rational, although these two qualities are in fact closely connected. This capacity for learning is bound up with the greater length of childhood in man as compared with other animals, and it is this which yields the psychic conditions of social as distinct from biological inheritance. We may rightly say that the long, helpless, plastic and experimental youth of man is the key to civilisation.

There are obviously two sides to this educability. Firstly, in the educable animals, the innate tendencies are originally less specific, more generalised in character; and, secondly, they carry to a greater degree the quality of *retentiveness*, the power of retaining impressions made by the environment. As one example we may cite the impulse to construct, as exhibited by certain insects, certain birds and man. There seems little doubt that the constructive instinct in e.g. bees and wasps is extremely specific in character, as regards the materials used and the methods employed; little variation in material or method is ever shown. The nesting of birds similarly keeps close to type, but shows slightly greater adaptability under certain circumstances, as e.g. at Soleure,

the home of the watch-making industry, where it is common to find nests built of the discarded mechanisms of watches. In man, however, while there is an undoubted tendency to construct, it is not a disposition to construct any particular thing or to work with any particular material or method. The tendency as inherited is generalised, its actual form of expression being dictated by individual experience and circumstance, and by the other tendencies which it helps to satisfy.

Retentiveness and Habit

We must now give some consideration to this highly significant quality of retentiveness, with which we are of course familiar in the shape of habit-formation. The importance of habit has long been emphasised by moralists and students of human life, and it has even been said that character is but " a bundle of habits ". The reader should now be in a position to see both the truth and the falsity of this aphorism. Character is not a " bundle " of anything ; it is rather a living whole, an organised dynamic system of intimately related tendencies. Moreover, there is much more in any man than his habits. The habits themselves did not start out of nothing ; they are simply the relatively fixed forms of expression of the original *horme*. And, further, they are not absolutely irrevocable. They are only likely to persist in circumstances closely similar to those in which they were built up,—they are likely to break down in suddenly altered situations. Kipling's remark that to the English Tommy Atkins—" There ain't no ten commandments " east of Suez, in part expresses this truth. Habit is not the whole nor the most significant key to personality, yet it is undoubtedly of great psychological importance. It does provide one of the means by which the organism becomes adapted to its particular environment, by which the original tendencies of individual human beings are modified in accordance with the demands of social life.

We shall say something of habit from the point of view of conscious experience in a later chapter. Here we may note

chiefly the experimental studies of habit as a phenomenon of the behaviour of men and animals. We may try to note our own behaviour when we are building up some new habit, —learning to play tennis, to cycle, to knit, to play a musical instrument. By careful observation in these ordinary concerns of life we can arrive at some understanding of habit formation. Our first attempts are made with effort, our movements being wasteful and bungling. We use unnecessary muscles and use them in the wrong way. This is true even if we are trying to imitate the motions of someone who is teaching us, or trying to put into practice principles we have learnt, but in these two cases we shall probably arrive at success far more rapidly and easily than if we are making attempts without guidance. Presently in this process of " trial and error " we do happen to hit upon a more or less successful combination of movements, with resulting pleasure. And this experienced pleasure " stamps in " the successful combination of movements, i.e. it has the effect of increasing the tendency towards those movements. Whereas the disappointment following the unsuccessful movements tends to " inhibit " them,—it reduces the likelihood of their occurring again. This influence of pleasure and pain has been called the " *Law of Effect* ". Now we try again and again ; each time the successful movement is made it is reinforced by pleasure, while the pain of failure increases the inhibition of the faulty movements. Meanwhile this continued repetition itself increases the tendency towards these movements which are repeated. The " *Law of Exercise* " expresses this fact that the repetition of any movement increases the tendency towards that movement in proportion to the repetition. The drunkard who is desirous of renouncing his habit, and who yet says " just one more glass,—after this I'll reform ", is vainly endeavouring to set this law on one side. It operates all the same, and he is by so much the less able to break his habit. Under the operation of these two laws the desired habit is gradually formed.

We may make our conditions of observation more exact and study habit formation in greater detail. We may use the

" *mirror test* ", as the habit to be formed under experimental conditions, that is, we may learn to trace out some prepared figure, say, a six-pointed star on a sheet of paper, whilst we look at it not directly but indirectly, by its image reflected in a mirror. Such a habit is the harder to acquire since it cuts directly across old-established associations of eye and hand ; our normal movements have to be completely reversed. We can by such an experiment study one person as compared with another, or one group of individuals as compared with another group, as regards their educability, their retention of habits, their methods of acquiring such a new habit, and so on. We can measure the ease of habit-formation in various ways. Two important measures are (*a*) the time taken for each successive tracing,—with practice the time is reduced ; and (*b*)—the gradual reduction in the number of errors and useless movements. If we plot either or both of these factors against the successive trials, we obtain a " curve of learning ". We may apply similar methods to the study of habit formation in animals, and such studies bulk very largely in the literature of animal behaviour. The first consideration in approaching this study with any particular animal is obviously to find an adequate motive for the formation of the habit required. In other words, we must stimulate some strong disposition of the animal which is thus made to acquire a special mode of expression. Commonly the food motive is used. The hungry rat, e.g., is put into such circumstances that he can satisfy his hunger by conforming to certain conditions. He may, e.g., have to find his way through a chosen labyrinth of paths, his food being at the other end ; or to learn to discriminate between certain colours or sounds. We may not only reward him with food when he does the right action, but may " punish " him with a slight electric shock if he does the wrong. Thus we use the " Law of Effect " ; and also the " Law of Exercise ", for we allow him to repeat the running of the labyrinth until the habit is perfected, keeping careful records of the time taken, the mistakes made, and so on. We also vary the conditions in order to reveal the mechanism by which the habit is built up,

whether he uses the proprio-ceptors or some extero-ceptors, sight, smell, and so forth. From these data we can build up a learning curve for comparison with curves obtained in other circumstances and with other animals. We thus arrive not only at a general notion of the relative educability of particular types of animals, but also at many detailed facts of great interest and importance with regard to the mechanisms used.

The Conditioned Reflex

A special technique has been developed in recent years for the study of the essential aspects of retentiveness, in even greater detail and under very rigorous experimental conditions. This is the method of the " conditioned reflex ", which demonstrates retentiveness with a beautiful simplicity.

We are familiar with the fact that we and other animals possess certain specific inherited forms of response which are spoken of as " reflexes ". Examples of muscular reflexes are the blinking of the eye when a hand is passed suddenly across the near field of vision, the knee jerk, the quick withdrawal of the foot when the sole is tickled or stimulated by an electric current. There are also glandular reflexes as e.g. the " watering of the mouth " at the sight or smell of food, i.e. the secretion of the saliva by the salivary glands. These reflexes have each their own natural adequate stimulus. It is found, however, that each may be educated to respond to a stimulus other than its natural one, if the former is consistently associated in experience with the latter. A hungry dog secretes saliva freely when stimulated by the sight or smell of food. If, whenever he is allowed to see or smell the food, he also hears a certain bell, very presently it will be found that the sound of the bell alone, without the intermediation of the presence of food, will have become an adequate stimulus to the salivary reflex, and his mouth will water. To sum up the situation simply, let X be a certain inherited reflex, and A its natural stimulus; then if, whenever A occurs, B also occurs, presently it will happen that B can take the place of A as an adequate stimulus of X. We cannot here describe the experimental apparatus and conditions by

which this phenomenon is being studied in exact quantitative detail with regard both to glandular and muscular reflexes. It is the general significance of the matter which is our present concern.

We see that the same phenomenon in a more complicated form occurs with the human baby. He feels hunger and expresses this by cries of distress. On being stimulated either by the contact or odour of the nipple he at once responds by the inherited reflex of sucking. This contact or odour is, however, constantly associated with other stimuli; with the warmth and contact of his mother's lap and firm hands; with the sound of her voice, and more remotely with her step and the sight of her at the door. Very presently these more remote stimuli become adequate to still the distressed cries and movements, and even to initiate the sucking movements. These latter are not sustained, however, without a continued contact on the lips. The frequent thumb-sucking of infants is clearly an example of a conditioned reflex, the thumb having taken the place of the nipple as an adequate stimulus. And the pipe-smoking habit of the babe's father has at least one of its roots in a similar origin! In this latter case there is present a special modification, which will claim our attention in a later chapter, viz. that the individual himself is entirely " unconscious " of the actual origin and first form of his present reaction.

It should be clear to the student that in the study of the conditioned reflex we are in fact at close grips with one of the simplest and most fundamental expressions of the general character of retentiveness. And we must once more emphasise the truth that the secondary stimulus, the " condition " itself, is only taken up into the reaction because there is already a disposition to respond, a tendency striving for completion. The organism is not a passive clay in the hands of the environment; it is because the organism is dynamic that the environment can impose these conditions upon it. We may note in passing, that the " conditioned reflex " shows retentiveness on the side of sensitivity, i.e. the animal learns to respond in the old way to new conditions;

whereas " habit " shows retentiveness, as expressed in the learning of new responses. These two modifications are correlative and of equal importance.

Displacement of Affect

Having thus considered the comparatively simple experimental facts of the conditioned reflex and habit, and holding in mind the dynamic character of the responses which become thus conditioned and modified, we may be able to relate to this general discussion of retentiveness the special and very important phenomenon spoken of by psychoanalysts as " *displacement of affect* ". We may regard this " affect " as feeling-impulse, i.e. the bio-psychic energy of which we have already spoken. This affect, constantly excited by the stimulation of the organism by changes in the outer world, seeks to discharge itself in muscular and glandular responses, until an equilibrium is again reached ; and this discharge of energy has certain natural organic paths. If, however, discharge along these channels is inhibited by internal or external conditions, it may take place along other paths. The " affect " may be " displaced " from one object to another.

The example often quoted is the devotion of the lonely spinster to her cat or parrot. We are accustomed to joke about her waste of affection upon such trivial objects, but we have perhaps always had an inkling of the fact that the cat or parrot was simply a substitute for the more normal love-object of child or mate. Other striking instances are quite common, fears of perfectly harmless objects such as spiders, mice and toads. Clearly the affect attached to the sight or memory of these is entirely inappropriate to the nature of the objects themselves. We have come to see (and it can be verified by a proper procedure in every case) that these terrifying but innocent things are really symbols for other objects more appropriate to this feeling-impulse aroused by them. The concept of displacement was first arrived at in the study of dreams, for technical analysis of the absurd and trivial events in the dream shows that these are but coverings or symbols for something far more significant. All the various

pictures and incidents of the dream turn out to be such symbols and the dream itself may be regarded as a symbolical fulfilment (in hallucination) of those repressed tendencies of which we spoke earlier. Now a symbol in the ordinary way is simply something, (object or event or image), which takes the place of, stands for and functions as another object, event or image, which thus finds indirect expression. We may rightly view the secondary stimulus in the conditioned reflex as a symbol of the primary stimulus. It stands for and functions as the latter. These two phenomena, so differently arrived at and spoken of in such diverse language, are thus by no means remote. There are significant differences between them ; but here again we are mainly concerned to point out the identities, and to make clear that certain essential characteristics of habit, of the conditioned reflex and of displacement are the same, all being special varieties of the fundamental phenomena of retentiveness.

We shall at a later point refer to the special significance of the term " symbol " in psychoanalytic studies, viz., that what is symbolised is always repressed into the " unconscious ". We have now come to see that many psychological phenomena other than dreams are symbolic in this sense. The compulsive acts and obsessive fears of the neurotic, and many minor physical ailments of apparently " normal " people turn out to be similar symbolic fulfilments of repressed tendencies. We have no space to quote instances here, but may simply refer to one example from literature, the hand-washing of Lady Macbeth, which was so clearly a compulsive expression of the desire to rid herself of guilt. Further study has revealed very clearly, moreover, that this mechanism of displacement by which indirect fulfilment of repressed " wishes " is achieved is not confined to morbid phenomena nor to abnormal individuals. It is a universal and fundamental mechanism of character-formation. In truth, very many activities of the adult are examples of this displacement, of this modified expression of the originial dispositions.

When, however, displacement occurs in a form socially useful and acceptable it is now common to speak of it as

sublimation (from the Latin *sublimare*,—to lift up). The sublimated wish is a tendency which has become effectively disciplined in the manner of its expression by the pressure of the social environment.

The consideration of two other aspects of retentiveness of the greatest importance in human psychology, viz. *recognition* and *recollection*, both of which are signified by the term *memory*, will fall into place in later chapters.

The Pleasure-Pain and the Reality Principles

We may usefully close this discussion of the psychic relation of the organism and environment by briefly considering in our present connection another contribution of the psychoanalysts, viz. the view that there are two principles of action, the "*pleasure-pain principle*", and the "*reality principle*". The first is essentially infantile; the second the normal attitude of the mature personality. We have already seen that human beings, like other animals, tend to seek those stimuli which yield pleasure, as they tend to avoid what is painful. Now the very young infant shows this demand for pleasure and dislike of pain in the most naïve and simple manner. Not only must his desires be satisfied ultimately but they must be satisfied *at once*. To understand this we have to remember that in the pre-natal conditions of his development in his mother's womb, he has had every demand satisfied, as it were, before it was felt. All his needs of warmth, shelter and food were provided for as they arose, without any felt hiatus between need and satisfaction, and without any effort on his part. And even after birth, the tender nurse anticipates his wants and protects him from the jar of the world and the distress of his own desires without asking any contribution of work on his part. Presently, however, as more complex needs arise, he begins to experience actual desires that do not receive immediate satisfaction. His demand is therefore insistent, imperative, all-absorbing, for immediate pleasure and the immediate removal of pain without effort. Now if his needs are not met at once, there arise in his mind vague memory-images of former satisfactions,

of e.g. the soft warm trickle of milk down his throat and the comfortable feeling which results. These hallucinatory images, self-initiated, are able for a time to still the craving. The normal child, however, soon rejects such phantasy-satisfaction, and discovers that he can obtain real satisfaction by expressing his craving in certain movements (cries, kickings, and so on), which become *signs* of his wants to those who tend him. He also quickly learns (in wise hands) that his desires can only be fulfilled on conditions, that in order to achieve satisfaction he has to adjust his own behaviour to the demands of his environment. The physical circumstances of life,—" In the sweat of thy face thou shalt eat bread ",—no less than the social demands of the family, school and community necessitate this observance of conditions, this adjustment to reality, as he grows up. And this lesson is hard to learn. It is hard to wait for the satisfaction of one's surging desires until certain conditions have been fulfilled. At the heart of everyone of us remains the imperious infant, demanding to be satisfied *now*, and without effort on our part, to be fed and nursed, and warmed and sheltered, as in those dear days of infancy. That common dream of finding one's self naked in public places is not only an expression of the childish delight of displaying one's own body, but also of the infantile desire to return to the golden days when no effort of social adjustment was required of us, and all was done for us by others. And would not honesty admit that most of us have a secret enjoyment of a slight illness which brings us once more to the centre of tender consideration! In the dreams of sleep, in the " day-dream " and phantasy, and under the stress of special circumstances, we all tend to " regress " to the more infantile form of satisfaction. We withdraw from the world which compels the effort of adjustment, to find enjoyment in the imaginary fulfilments of our desires. This is a normal thing in youth—the boy pictures himself a hero, the girl as surrounded by crowds of admirers, and so on. But for full development these dreams have to be relinquished, and behaviour has to be adjusted to the demands of the real world; we have to learn to express our

desires in the terms given to us by reality. Unfortunately there are many individuals who literally refuse " to grow up " in this sense. Such refusal is not deliberate or conscious, but it operates none the less. The " neurotic " appears to be one who is more or less permanently unable to bear the full pressure of real life and tries to retire from it into the world of phantasy where immediate satisfaction of desire, without effort, can be achieved. With many people a sudden shock, an unusual strain, a severe illness may occasion such regression to infantile attitudes. Many cases of insanity are to be so understood.

These general facts are summarised in the Freudian view that conduct may be animated either by the primary " pleasure-pain principle " or by the secondary " reality principle ". It must be remembered that pleasure and pain are always operative, that the adjustment to reality takes place under the guidance of experienced pleasure and pain. When acting upon the reality-principle, however, the organism accepts the conditions laid down by the nature of the world in which it lives, and obtains ultimate satisfaction through obeying these. Under the influence of the " pleasure-pain " principle it refuses to learn by experience, but seeks to gain immediate satisfaction within itself, independently of the outer world. Clearly the " reality principle " is closely related to the general problem of retentiveness. Adjustment to reality is the expression of the educability of the individual to the pressure of his environment, and individuals differ greatly in the extent to which they possess this special form of retentiveness. Some make the necessary adaptations with relative ease and completeness, others fail to accept the discipline of life and remain more or less infantile in their attitude and responses. It is to be remembered, however, that a highly complex civilisation makes extremely heavy demands on our power of adjustment by the mechanism of displacement, and it is not to be wondered at that the burden is too heavy for many of us.

CHAPTER VI

INSTINCT AND INTELLIGENCE. I

WE have already seen that the life energy of an organism is characteristically expressed in certain concrete tendencies to specific modes of behaviour; and we have distinguished between inherited and acquired dispositions. We must now consider the general qualities of the innate dispositions, and the transformations which they undergo as a result of individual experience. And since up to now we have emphasised the comparative point of view, we may, perhaps with profit, turn our attention chiefly to human behaviour and the human mind, in our remaining chapters.

Innate Dispositions

If we observe the quite young infant, we find that from the first he is able to respond to inner and outer changes in ways useful to himself. A condition of emptiness of stomach, for example, will result in characteristic restless movements of limb and body and vigorous cries of distress; and when he is brought into contact with the maternal nipple the appropriate sucking movements immediately occur. If we lay a finger on the child's palm, at once the tiny hand closes tightly and firmly around our finger,—so much so that the newborn child can sustain his own weight in this way for a period as long as one minute. ("He rastled with my finger, the d——d little cuss!" was Kentuck's remark in "The Luck of Roaring Camp".) Very early the young child will show fear of some sudden loud noise, or when taken into

a strange house, or when left in the dark. And if his toy drops to the floor beyond his reach, or is appropriated by a playmate, he will show anger, sometimes in an extreme form. Before the end of the first year he will make attempts to stand on his feet and to walk, while at the same time he is "babbling" vigorously, experimenting with the production of sounds and the imitation of those he hears. Throughout the period of childhood he will play spontaneously (if he is healthy), and at each phase of development he will tend to play in ways characteristic of that period. In the early teens, for example, he begins to join very freely in group games, and presently this group spirit becomes immensely strong, and for good or evil, boys run in "gangs". In quite early childhood that tendency which is the plague of impatient parents develops, the tendency to ask questions. At this stage there is no close season for "why?" and "how?" and "what for?". In the middle teens the sex-impulse (always apparent in some form from infancy upwards) takes on its characteristic adult form and direction, and becomes a potent influence in his life. And if later a home is founded and parenthood ensues, a new and almost equally strong force appears, the love of children and the impulse to cherish them. We can see very clearly that these tendencies are part of the native endowment of individuals. The environment is not responsible for their existence nor for their strength, although in some cases it may help to determine the form in which they shall be expressed.

Reflexes

Now if we examine a sufficient variety of such inborn tendencies to response, we shall see that some are relatively simple and specific, while others are much more complex and generalised. The tendencies in the first group are spoken of as *reflexes*. These are of fundamental biological importance, being part of the self-protective mechanism of living creatures. The sucking movements of the infant are reflex; so is the gripping of the finger or pencil laid in the palm. And the grown-up exhibits many such responses. He

coughs, sneezes, withdraws his hand from a burning or cutting contact, blinks his eyes if an object passes suddenly across his field of vision, " jumps " if a door bangs, secretes saliva at sight or smell of food, blushes and trembles and cries, and so forth. And none of these movements are " learned " by the individual,—they are all part of his biological heritage. The reflexes, moreover, very clearly belong to what has been called the " all-or-none " type of reaction ; in other words, they are ungraded in intensity. If a stimulus be sufficient to evoke it at all, the response occurs with a more or less abrupt and regular intensity. This is in marked contrast to acquired habits of adjustment. The reader may compare his own movement if a lighted match is brought near his hand unawares, with his delicately graded and adjusted combinations of movements in playing the pianoforte or handling the billiard cue. Furthermore, the simpler and more typical reflexes are scarcely modifiable by individual experience, and are inhibited with the greatest difficulty, if at all. An Italian proverb runs " Love and a cough cannot be hid ". Darwin relates of himself, that standing in front of the cobra's glass chamber at the Zoological Gardens, he did his utmost not to blink when the snake struck at him behind the glass, but, in spite of perfect conviction of his own complete safety, he was quite unable to prevent the blink.

The reader will easily recognise the great biological significance of such inherited and inevitable modes of response, and their study is both interesting and important. Since our purpose here, however, is not to make an exhaustive survey of the relation of the living creature to his world, but rather to understand certain aspects of that relation, and in particular the modification of native responses by experience, we need say little more about these relatively fixed reactions.

The Instincts

We are very closely concerned with those inborn tendencies which are less specifically determined by pre-formed structure, and more amenable to the influence of the physical and social environment.

Take e.g. the speech impulse. The first vocal efforts of the child are probably closely connected with the movements of sucking and the pleasures derived therefrom. There is very clearly a spontaneous tendency to experiment with lip and tongue and throat movements, and delight in listening to the sounds produced. Presently imitation comes into play, and when the child realises that the sounds made by himself and other people are *signs*, and instruments for the communication and satisfaction of various needs, the original impulse to sound production is immensely reinforced. So far all is spontaneous and due to innate tendency. Through the play of imitation, however, the actual form which is imposed upon the speech impulse is clearly the result of circumstance. We may perhaps speak of a language-tendency, but not rightly of a French—or English—or Chinese-language tendency.

Now there are many such innate and spontaneous dispositions, more or less plastic and generalised, whose final character is fixed by habits built up under external influences. Comparative psychologists have usually applied the term *instinct* to these dispositions, which are thus differentiated from the simpler and relatively rigid reflexes. We must, however, realise that there is actually no sharp line between reflexes and instincts, with regard either to the complexity of co-ordination involved, or to the degree of plasticity shown. We are dealing with two groups which are distinct when seen typically, but which merge into each other. We shall presently see that it is now becoming more usual to apply the term "instinct" not to all these generalised and plastic tendencies, but to a group of these which have certain well-marked features.

We may now consider the general characteristics of instinct in the broader sense. We have already seen that such tendencies exist prior to experience, being thus in marked contrast to habits which, sharing with instinct the quality of automatism, are yet the fruit of experience. Instincts are thus in the first instance independent of conscious planning or anticipation. These facts led William James to frame his famous definition of an instinct as "a tendency to act in such a

way as to produce certain ends, without foresight of those ends and without previous education in the performance of the action ". Strictly, this description is only true of the first functioning of instinct, at least in the higher animals and man. The first working of the migratory or nesting or mating impulse in the bird appears to be entirely spontaneous and unconscious of ends, but we have no reason to suppose that on succeeding occasions there is not some sort and degree of memory involved. In man the high development of memory and anticipation makes it possible to see the pure working of instinct only in the earliest years; and yet even in man the distinction remains relatively true. It is in the very unconsciousness and spontaneity of the love-making of Romeo and Juliet that its special beauty lies; while the proverbial fascination of the widow springs largely from her open-eyed knowledge of the full implications of her own behaviour. Here, instinct has gained a piquant consciousness of itself. More usually, however, instincts in man become overlaid with knowledge and habit, and this led us to believe for long that they were only to be found in infra-human creatures. We know better now; and we also fully realise that no matter how far the direction and character of the instincts become modified by experience, the innate disposition remains the original driving force, the source of the energy which is so expressed.

Instinct and Emotion

We are, however, no longer content to define an instinct as a mere tendency to act, for that turns out to be too simple a statement in many cases. If we examine some of the more important and typical instances we find that there is not only a tendency to overt action appropriate to the situation, but that a strong emotion normally accompanies this impulse. In some cases, indeed, the emotion is so much the more dramatic and characteristic a part of the total experience, that popularly we name the instinct from the emotion rather than from the action. This is so in the case of fear, and sometimes anger. The terms fear and anger are how-

ever best kept for the characteristic emotions which are felt along with the characteristic impulses. The impulse typical of the fear state is twofold, according to the circumstances and intensity of feeling, viz. to hide, or to run away. The rabbit e.g., which startles us by jumping up and rushing away when we are nearly on the top of him, has been exhibiting the first form of safety-seeking (a very effective form, for it is difficult to make out a perfectly still animal some distance away if his colour be near to that of the background); but our continued approach, in spite of this dodge, finally stimulates the other form of response, and he dashes away to the nearest cover. The emotion of anger is linked with the fighting impulse, the tendency to " defense by aggression ".

These two instances of instinct-emotion, fear and anger, are perhaps the most striking. We can, however, observe an accompanying emotion in the case of many of the more important generalised tendencies, as e.g. the characteristic " tender emotion " (with a yearning quality, near to both laughter and tears), which the mother feels in looking upon and serving her children; the emotion of wonder found with the impulse of curiosity; the feeling of disgust and the movements of repulsion; the impulses of self-abasement and self-assertion, with the characteristic emotions of subjection and elation (negative and positive self-feeling) respectively, and others. Sometimes we have no name for the emotion, even when it is fairly well characterised, as in the case of the affective qualities accompanying the constructive impulse, or the property impulse. The miser's gloating shows this latter developed to the extreme. Some psychologists have come thus to reserve the term instinct for those tendencies to action which normally carry with them a characteristic emotion. The emotion and the instinct are found to show a very intimate relation, so intimate that it is often extremely difficult to say where the one ends and the other begins.

Nor are emotions themselves simple things, and there has been much controversy as to their exact nature. If we observe ourselves and others when under the sway of fear,

for example, we find that all levels of bodily and mental functioning are involved. There is a feeling of tension which when well marked under strong emotion is decidedly unpleasantly toned; there is a certain narrowing and intensifying of consciousness,—one can only attend to those objects or events which are relevant to the emotional state, and these have an unusual value; and there are more or less violent changes in physiological conditions and overt behaviour,—a wild heart-beat, blanched face and lips, dry throat, stilled breathing, a "rising" of the hair, dilation of the pupils, wide-opening of the eyes, muscular twitchings and tremblings and the incipient movements of flight or concealment. So much we can observe in the ordinary way. Recent physiological research (based largely on the method of the conditioned reflex) has revealed the profound extent and the special significance of the organic changes. We have no room for an adequate account of these interesting facts, but may briefly summarise the more important ones. Under the stress of fear, or rage, the arterial pressure is increased, the pulse is quickened, the blood-supply to the viscera is lessened and that to the skeletal muscles is increased; sugar, as a source of energy, is thrown into the blood from its storehouse in the liver, digestive processes temporarily cease; and the secretion of "adrenin" by the suprarenal glands is greatly stimulated, the effect of which substance *adrenin* is further to heighten all the above mentioned processes, to increase the ready coagulability of the blood and to restore fatigued muscles quickly. These physiological facts help us to understand why it is that, under the stress of great emotion, people are able to perform unusual feats of strength, agility or endurance; why, for example, the soldier, in a state of fighting lust and battle exaltation, can ignore a severe abdominal wound or degrees of fatigue that would normally incapacitate him.

It is also made clear to us why milder, but longer continued, emotional states, which are not able to discharge in appropriate reactions, as e.g. anxiety, worry and fear, have so evil an effect upon digestion and bodily health generally.

Digestive troubles are very commonly emotional in origin. Clearly the biological significance of emotion is that it normally reinforces and makes preparation for the effective functioning of those instinctive reactions with which it is so intimately connected. This connection is not a mere accompaniment, but involves a very complex inter-relation of parts and functions.

Nor is this the whole story of instincts. The functioning of these dispositions is determined partly by inner and partly by outer factors. There must be a certain general condition of the organism itself, and there must be some stimulus from the environment, these two sets of factors together resulting in the discharge of the instinct. This is very clear in the case of the " periodic " instincts, such as nesting, mating and migration in birds. It is also clear in the case of the sexual instinct in man. At, or about, the age of adolescence this complex disposition comes to maturity, and its effects pervade the whole personality. There is now a readiness to function which leads to high inner tension until the appropriate stimulus appears in the shape of a person upon whom the emotion-impulse can be focussed and discharged.

Of the inner conditions or " appetites " we can say no more here, but must now turn to a brief study of the processes in virtue of which the outer factors are able to operate,—those mental processes by which we become *aware* of the external changes which arouse our responses, by which we *perceive* the objects appropriate to our instinctive needs.

Instinct and Perception

At an earlier point we spoke of the receptors, those structures which are specialised for the particular function of sensitivity to changes occurring in the outer world, and within the body of the living creature itself. On the conscious level, the stimulation of sense-organs gives rise to *sensations*, and these sensations are the foundation of all our knowledge of the world and of our own bodies. Touch, sight and hearing are by far the most important senses in human beings for knowledge of the outer world of objects. The eye

and ear are often spoken of as " distance receptors ", since they are responsive to stimuli acting at a distance; touch (pressure), pain, the temperature-sense, and taste, are " contact receptors ", being stimulated only by actual contact with a solid or liquid form of the object sensed. The fact that sight and hearing are distance receptors is one of the reasons why they are regarded as " higher " senses. They lend themselves more readily to impersonal knowledge, are less inevitably bound up with emotional and organic processes, and yield a superior power of adaptation to the environment.

Our very limited space does not allow of more than the mention of what is a considerable psychological field, viz. the study of sensations. We may, however, note briefly certain of their general qualities.

General Characters of Sensations

It is important to realise that a " sensation ",—say, of blue, or hot, or of a note of a certain pitch,—is a mere abstraction. We always actually have a blue *something*,—paper or cloth, or whatever it may be; a hot poker, or fire, or sun, or hand; the note is always the note of a bell, or whistle, or piano, or other particular instrument. In other words, the simplest unit of mental experience is a " percept ", not a sensation. For the purposes of study, however, we single out by analysis this one aspect of the perceived whole,—its colour, or tone, or temperature, or taste,—and consider only that for the time being. And we simplify our objects so as to make this concentration on one sensory aspect as easy as possible. For example, in the study of colour-sensations we do not use vases and curtains and trees. We find it better to use papers of a uniform size and shape and texture, thus reducing all differences, save that of colour, to a minimum. When we observe various sensations by this method of abstraction we find that we can distinguish certain general characters.

All sensations have a specific *quality*,—the redness, or yellowness, or greyness, of visual sensations; the sweetness

or bitterness of taste; the pitch and timbre of sounds. All sensations vary in *intensity*; sounds may be loud or soft; tastes may be more or less sweet; pains more or less severe. All have *duration*,—a beginning and an end. A sensation is indeed to be regarded as an event, rather than as a thing. It is fluid, moving and changeable; only by intellectual abstraction do we think of it as fixed and static. Some, but not all, sensations are spread out in space, that is, they have *extensity*. Touch and sight are the two which show this character clearly and essentially; and their extensity is a fundamental element in the perception of form and size and distance of objects.

Recognition

If we now make an analysis of any perceptual experience we find that there is always involved some actual present stimulation of one or more extero-ceptors by the "object" perceived. Take, for example, my perception of the pen with which I am now writing. My eyes are stimulated by light rays reflected from it, the skin of my hand by its contact, and the muscles of my finger and thumb by deep pressure in grasping it. I may think of, or imagine, the pen when it is not present to my senses, but in that case I am not "perceiving" it. So much is clear and obvious. There is, however, much more in perception than this mere experience of actual present sensation. Suppose I had never seen such an object, or anything nearly like it, before. When it was put into my hand and I looked at it, although my eyes and skin would receive the same stimulation as now, I could not be said to "perceive" it; I should not know *what* it was. I should see something of a certain size, shape and colour, and feel a certain hardness and temperature, but I should not perceive, should not recognise the object. Take another example; I meet a man in the street whom I do not know although my companion may salute him. I say "I did not recognise him", meaning, I did not perceive him as the individual whom he is. I saw a man of course, but I did not see "Brown", or "Smith", or whoever he may have

been. Now this failure to perceive, in spite of present stimulation, is due to the very newness of the particular sensations received. They have no meaning for me if, and because, they are quite unfamiliar. It has thus been said that cognition (knowing) always involves recognition (knowing again). Or, in other words, perception involves memory. A thing that is entirely new to us will yield sensation, but not perception. For perception may be said to be *present sensation ordered and penetrated by past experience.* Consider the case of listening to someone speaking in a foreign and unknown tongue. One's ear is fully and adequately stimulated, no less effectively than when listening to one's own language. Yet there appears to be merely a formless confusion of meaningless sounds which we not only fail to understand, but fail to hear, because we have nothing to order and systematise them. We always feel that the speaker in an unknown tongue talks very fast, yet he may not be speaking any more quickly than a friend conversing in English. It is because the sounds are to us a meaningless jumble, that they seem so rapid. The successive occasions on which we listen to the new language continuously increase our familiarity; we have more and more past experience to bring to bear on the present sensations, and they acquire fuller and fuller meaning for us. The actual immediate perception of them is thus made finer, more exact and more detailed. Instead of a formless confusion we now have an ordered succession of clearly distinguished and significant sounds.

We may say, then, that perception involves that special type of retentiveness which we call *recognition.* Now this recognition in perception can itself be analysed further. Suppose I am not handling my pen, but merely see it lying on the table. I still perceive it, although now my actual sensations are only visual. Suppose when I put out my hand to pick it up my touch revealed it to be soft, or squashy, —what a shock I should get! Sometimes we do get a shock of that kind, as when we put out a hand to pick up something that appears to be made of a heavy metal, and it is really a light wood. The hand goes up high into the air with a

jerk, showing that the muscles were adjusted for a larger effort, and only a small one was required. Yet we have not worked this out deliberately. We have not said,—"There is an object that looks heavy, I must put out all my efforts to lift it". It is a quite immediate and unconscious process. But if we had been asked beforehand, we might have said, "Yes, that looks heavy", just as one says marble "looks cold", satin "looks smooth", and so on. But heaviness is not primarily a visual quality; it is a matter of muscular effort. Coldness and smoothness are qualities affecting the skin, not the eye. Clearly this is again a matter of retentiveness. In our experience things that looked so-and-so have always felt so-and-so. Our present visual sensations caused by them thus seem to be suffused by this other quality. We must not say that these qualities were "associated" in experience and are therefore associated in memory, for the qualities are not, save in abstraction, separate things which are added or associated; they come rather in the form of mutual modifications. The marble does truly look cold; the lead looks heavy. In other words, the actual sight of the objects is altered in quality in this subtle manner, by our past experience of the varied sensations which we have had in connection with the objects. The memory involved is an implicit memory, not a separate recollection of the past occasions on which we have had these other sensations as such.

It will already appear to the student that perception, which, to the naïve mind, seems so direct and simple a thing, is in reality highly complex. Yet it must be remembered that as experienced it *is* simple and direct. The percept is a simple unity for the perceiver, and it is only by abstract analysis based on the cross-relations of introspection and behaviour, that we can disentangle the complex processes which are fused in this psychic unity.

Movement and Perception

We have not yet told the whole story of perception. If we return for a moment to our instance of the foreign tongue,

we know that our perception of the new sounds would be a slow process if we merely listened, and is very much accelerated if we try to speak the words ourselves. After we have made the movements by which the sounds are produced, we hear them better as spoken by other people. But in making these movements we are adding to our hearing of the words " kinæsthetic " sensations (from the proprio-ceptors in the muscles and joints of the speech apparatus). Thus our perception of the sounds made by another, as we listen to them and watch the movements of his lips and throat, is aided by this special kind of sensation arising from the experience of our own movements. These kinæsthetic sensations, in other words, seem to introduce order and meaning into the sounds heard. Now it is probable that this is always so, that the sensations derived from the stimulation of extero-ceptors by outer " objects " do actually become systematised into perceptions by our own experienced movements in relation to the objects. Consider what the world must be to the new-born infant ! At every sense-gate impressions are pouring in upon him, impressions which at first can have no order, no meaning, for him. The whole world must be to the infant what those confused sounds of the strange tongue are to us. William James has described the universe as it must appear to the babe as a " big, buzzing, blooming confusion ". What sorts out this jumble of sensation into ordered perceptions and " objects " ?

One key to this question is given by the child himself when he is a little older. Ask a child to say what a particular thing is, and he will define it in terms of *its use*. A chair ? A chair " is to sit upon ". A knife " is to cut with ". Bread " is to eat ". A horse " is to ride ". A snail " is for crushing that it may not eat the lettuces in the garden ". The child thus defines a " thing ", not in terms of the material of which it is made, nor on the basis of any scientific classification, but in terms of his own activity towards or with that thing. The essential nature of a thing is its purpose. That purpose, however, is represented in consciousness by the kinæsthetic sensations resulting from one's activity in

relation to the object. We may look upon these sensations as those elements in perception which give meaning to the other sensations arising from the extero-ceptors. How then does the infant come to order the world around him into objects and people and events? In the first instance, by his own inherited reactions upon them. His native responses to certain sensory stimuli, such as we have considered in discussing reflexes and instincts, unlock the world for him. Every time he makes such a response he experiences kinæsthetic and organic sensations in close relation with those of sight or hearing, touch or taste or pain, aroused by the particular bit of the outer world which, acting upon him, has called out that reaction. And, of course, he experiences pleasure or pain, satisfaction or dissatisfaction of his emotional needs at the same time. Frequent recurrence of the same, or nearly the same situation will, by the law of retentiveness, bring about that psychic fusion of all these elements into a series of " objects ". On later occasions these objects (toy, cradle, bottle, mother, sister, and so on) are perceived, recognised; that is, the sensations now come to consciousness charged with this past experience and with personal values.

We must not think ourselves superior to the child in this matter of interpreting the world in terms of personal values. (Have we not all met the grown-up person who says " I can't see what the insects are *for*! ") As a matter of fact, we never do or can get away from this weighing of the universe in our personal scales. It is merely that our scales become larger, better-balanced and more abstract. Without our purposes we could not lay hold of the universe at all. The student will find, moreover, that there is ample experimental evidence to show that interest, purpose or " set of mind ", is probably more important in perception than the actual sensory elements themselves.

Instinct as a Unity of Perception, Feeling and Impulse

As we hinted earlier, in our discussion of attention and interest, innate or acquired tendencies determine perception

as well as action and feeling. These facts have been summarised by McDougall in his definition of instinct as "an inherited or innate psycho-physical disposition, which determines its possessor to perceive and to pay attention to objects of a certain class, to experience an emotional excitement of a particular quality upon perceiving such an object, and to act in regard to it in a particular manner, or at least to experience an impulse to such an action".[1] In other words, an instinct is a concrete unity of perception, feeling and impulse.

These elements, however, do not always function with the same intensity. When, for instance, emotion is deeply stirred the impulse to activity is greatly reinforced, and unusual energy may be displayed; but because of that narrowing and intensifying of consciousness which emotion brings about, those energetic responses are relatively blind, following the beaten track of inherited form or habit, and not being closely adapted to the actual situation and its detailed changes. Whereas when emotion is less strongly stimulated, the perceptive processes are nicer, there is a wider freer play of the mind upon the environment, and the movements made are likely to be better adjusted to the actual situation. This is clearly illustrated in boxing and prize-fighting. Other things being equal, it is the man who "keeps cool" who has the best chance, because he is keener-sighted and readier in response, while the man who "sees red" and loses his temper is likely to be worsted, just because he cannot adapt his responses with sufficient nicety and speed.

An instinct is thus seen to be a dynamic unity of innate tendencies to particular forms of response, feeling and perception. These tendencies are the raw material upon which experience works, and the play of external conditions upon them begins with the first development of individual life. With the more educable animals, perception and response, as they actually occur in the adult, are interpenetrated by

[1] McDougall: "Social Psychology", p. 29.

For a very different statement of the same facts, see Rupert Brooke's poem, "*Heaven*".

individual experience. This is true of the higher animals as well as of man. The horse, the dog and the rat show very considerable educability. When one reflects, for example, how great a change is made in the life of a three-year-old colt, how great a modification of some of his innate tendencies is required by the process of " breaking-in ", which in the hands of a skilful trainer takes only a few weeks, one realises how high that degree of adaptability is. Yet in the case of animals other than man, the absorption of experience remains almost entirely upon the " perceptual level ". The dog's reaction to a present situation is undoubtedly the outcome of his individual history, and the past lives again for him in the present ; but his reactions always are to a present situation. He has access to the past only through the present, for he probably cannot " remember " the past as such. He has recognition, but probably no " recollection ". He is thus tied to the immediate present as given in concrete perception.

It is not easy for the human being to understand what the merely perceptual experience feels like. Yet occasionally we seem to get close to it ourselves, as Thorndike suggests in the following passage. After describing his experiments upon certain animals, he says " One who has seen the phenomena described, who has watched the life of a cat or a dog for a month or more under test conditions, gets, or fancies he gets, a fairly definite idea of what the intellectual life of a cat or dog feels like. It is most like what we feel when consciousness contains little thought about anything, when we feel the sense-impressions in their first intention, so to speak, when we feel our own body, and the impulses we give to it. Sometimes one gets this animal consciousness while swimming, for example. One feels the water, the sky, the birds above, but with no thoughts about them, or memories of how they looked at other times ; one feels no ideas about what movements he will make, but feels himself make them, feels his body throughout. Self-consciousness dies away. Social consciousness dies away. The meanings, values and connections of things die away. One feels sense-impressions,

has impulses, feels the movements he makes; that is all. . . . When a man learns to swim, to play tennis or billiards, or to juggle, the process is something like what happens when the cat learns to pull the string to get out of the box, provided we remove in the man's case all the accompanying mentality which is not directly concerned in learning the feat. . . . One makes use of no feelings of a common element, no perceptions of similarity. The tennis player does not feel 'This ball coming at this angle and with this speed is similar in angle, though not in speed, to that other ball of an hour ago, therefore I will hit it in a similar way.' He simply feels an impulse from the sense-impression. . . . The elements of the associations are not isolated. No tennis player's stream of thought is filled with free-floating representations of any of the tens of thousands of sense-impressions of movements he has seen and made on the court. Yet there is consciousness enough at the time,—keen consciousness of the sense-impressions, impulses, feelings of one's bodily acts. So with the animals. There is consciousness enough, but of this kind ".[1]

While, however, we agree that the perceptual consciousness must answer very closely to this description, it must be noted that the view that the animal never reaches beyond this level is still open to question. There are investigators who hold that, for example, the cat, dog and monkey do sometimes show at least a rudimentary capacity for higher forms of retentiveness.[2] We would again emphasise our earlier remarks that there is no absolute break between man and other animals in this or any other respect. Characteristically, however, the creatures other than man do live in the world of concrete perception, whereas man has moved on to higher levels of retentiveness. Man's educability is greater because it is of a superior order. He gains more *from* experience just because he brings more *to* experience.

It is sometimes said of the young human child that he lives on the perceptual level. He clearly must do so to a far

[1] E. L. Thorndike: "Animal Intelligence", pp. 122–4.

[2] See e.g. L. T. Hobhouse: "Mind in Evolution".

greater extent than the adult, and in proportion to his youth. At no point, however, is his experience simply and entirely perceptual, for no matter how young he is, he is always human ! Even at the earliest stage his perceptions must contain the germs of memory and thought, his impulses the potentiality of the developed will. Yet it is useful to remember that, relatively to the adult, the child does live in the immediate present, and is moved by simple impulses and unorganised emotions.

We are now to consider the processes by which instinct is transformed into knowledge and will and personality, under the hammer of experience.

CHAPTER VII

INSTINCT AND INTELLIGENCE. II

WE have seen that on the level of simple instinct, in the case of the higher animals, the human child and the human adult in certain circumstances, there is a direct cycle of perception, feeling and response. Perception is followed immediately by the appropriate reaction, and past experience exerts its influence only in an indirect manner, through habit on the one hand and recognition on the other. Now this cycle of " perception—feeling—response " remains the essential unit of the mental life no matter how complex the various elements become, and no matter how far the primary instinct-cycles are woven into higher unities. Action remains the final goal of knowledge, and the path from knowing to doing lies through feeling. In man, however, each of these elements in the cycle becomes highly modified and complicated, and loop-lines, as it were, are developed upon the primary path.

Images

In an earlier chapter we spoke of the hallucinatory images which arise in the mind of the infant, or of the adult, under the stress of unsatisfied desire ; images which provide a temporary substitute for real satisfaction. Antarctic explorers, for example, tell us that when food rations are low and belts have to be tightened, tantalising images of good things to eat float ever before their minds, and conversation tends always to be reminiscent of the fragrant dinners eaten in pleasanter circumstances. The lonely child will people

his nursery with playmates, and the awkward youth compensates for his own keenly realised imperfections by his imagined exploits as a hero. Moreover, children and primitive peoples tend to take these images as if they were perceptions; even dream-images tend to be treated as real events, and to be acted upon in the sober business of life. For instance, Sir Everard im Thurn, in his "Among the Indians of Guiana", relates how some of the Indians of his party fell ill: "One morning when I wanted to get away I found one of the invalids, though better in health, was so enraged against me, that he refused to stir, for he declared that, with great want of consideration for his weak health, I had taken him out during the night and had made him haul the canoe up a series of difficult cataracts. Nothing could persuade him that this was but a dream, and it was some time before he was so far pacified as to throw himself into the bottom of the canoe. At the time we were all suffering from a great scarcity of food, and hunger having its usual effect in producing vivid dreams, similar things frequently occurred. More than once the men declared that some absent man whom they named had come during the night and had beaten, or otherwise maltreated them; and they insisted on much rubbing of the bruised parts of their bodies".[1]

Such a confusion of the imagined and the real occurring in the child and in the savage is primitive, not abnormal. The hard knocks of the real world sooner or later bring about some practical appreciation of the difference between images and perceptions, and the sophisticated and civilised adult takes his images much less seriously, coming to look upon them as purely subjective phenomena. We saw, however, in an earlier chapter, that some individuals, in times of great inner conflict or external frustration of desire, tend to regress to their earlier attitude; they tend to accept the false coin of hallucinatory joys as a substitute for real satisfactions. Yet in these abnormal cases it is not that they make a simple confusion, as the child does, between the imagined and the real. It is rather that, because the effort of adapting them-

[1] Sir E. im Thurn: "Among the Indians of Guiana", p. 344.

selves to the real world is too great, they withdraw from it, turning their energies inward to the contemplation of these self-initiated and unsatisfying " satisfactions ", which keep their emotions ever in undischarged tension.[1]

The fact that images appear to give satisfaction, and yet fail to do so, is indeed part of their biological significance in the normal individual, for by this tantalising character they tend to reinforce desire, to sustain longing, to call out activity. They act, indeed, like the carrot held ever a few inches from the donkey's nose,—a constant stimulus to further effort. As has been said, even a visionary Utopia may be " the very block and tackle of human advancement : it not only unifies the thoughts and hopes of a nation or a period, but, what is more important, provides a programme of common activity."[2]

Recollection

Images are, moreover, a very important instrument for securing fuller and more adequate responses to the conditions of the real world, for they form part of the machinery of memory and anticipation and of the thought processes. In our discussion of perception we saw that the remembered past is inherent in the perceived present, that cognition involves recognition. In true *recollection* memory becomes explicit and the past is recalled as such, independently of present sensation. This may take place in the form of free images. I may recall in visual images, for instance, the walk I took yesterday, or the scenes I visited on my last holiday. If I am asked whether I know a certain piece of music its melody may come floating into my mind in sound images, perhaps with a mental picture of a particular conductor and orchestra and hall of entertainment accompanying the remembered sound. I may similarly recall in imagination " the touch of a vanished hand ", the melancholy odours of woods in autumn, and so on. When these images act as the instruments of memory they come to consciousness with a

[1] See e.g. Hart : " Psychology of Insanity ", pp. 152–7.

[2] Slaughter : " The Adolescent ", p. 25.

definite reference to an actual situation in a definite past. They act as the free representatives of that past in the present.

The world of images is wider than that of memory alone. Through the imagination we are able to envisage the possible future as well as to remember the past, and this offers a further means of adjustment to the conditions of life. This capacity for living again through the past and anticipating the possible results of the present in images must undoubtedly have had a great " survival value " in the days when primitive man struggled for existence against enormous odds. It must have been useful even when it was a relatively undisciplined play of vivid concrete images not worked over and regulated by the higher processes of thought, a chaotic play of imagery such as the child experiences so richly in his early years, and to which we return in our moments of " day-dreaming." The disciplined imagination of the inventor, the engineer or constructive scientific thinker, the statesman or man of business, is clearly of great practical value. In these latter instances, however, we have passed out of the plane of mere images into that in which they become the vehicle of thought.

Images as the Vehicle of Thought

Images lend themselves more readily than perceptions to the higher processes of thought because they are, in their concrete qualities and in the order of their appearance in consciousness, largely independent of present conditions. The present sight of a rose may evoke a train of images (a garden, a person whom I last saw in a particular garden, another occasion on which I saw him, what he said to me, and so forth), but, once started, my memories and fantasies may follow a course leading me far away from present circumstances. It is an interesting experiment to start a number of people in company from a single agreed word or object, each following out his own trend of associated images privately, and comparing notes as to the place reached at the end of a given time. There will be marked differences between the individual trains of imagery and the final points reached,

indicating that these have been determined far more by previous personal histories and individual interests than by the immediate stimulation experienced in common. Moreover, at any point the train of images is open to subjective control, and we can determine its direction in accordance with our purposes without first having to change external conditions. In other words, we can postpone action while we " take thought ", can ransack our past experience in recollection, can forecast the future in imagination, and thus learn to act upon the basis of long-distance factors.

When, however, we " take thought " we are no longer following out a train of images which merely reproduces certain events in just the manner and the order in which they actually occurred in our past experience. We have no longer a definite reference to the concrete past simply as it happened, but are interested in the meaning of images in relation to our present purposes. In other words, our images have become *ideas*.

Let us examine some cases to make this clear. I am walking along a London highway in a certain direction when I see a 'bus which I immediately recognise to be the one useful to me, and " without thought ", as we say, I hail it and jump aboard. Now this is almost entirely a " perceptual " response. It will rarely be merely perceptual, however, for it is probable that, as I see the 'bus, a vague fragmentary image of some part of a journey I have previously taken on this 'bus, or the voice of a friend who told me that this 'bus would be useful, or of a map of the district I wish to reach in relation to the route stated on the 'bus, may float momentarily through my mind ; and no matter how vague and fragmentary these images may be they serve to carry the meaning " Yes ! this 'bus, No. 73, is the right one for my present purpose ". This is still clearer if the situation is more problematic, as when I want to get to a certain place, say High St., Kensington, from St. Pancras, and am not sure which will be the best way. In the process of " making up my mind ", I review the alternative routes in relation to the time at my disposal, the interest of the places passed on

the journey, my likes and dislikes of 'bus or tube, the chances of getting outside a 'bus at this hour and in this weather, the state of my " cold ", and so on. Now all this may pass through my mind very rapidly in the shape of scraps of imagery. I do not, however, take any notice of the images for their own sake, and I neglect their concrete qualities save in so far as they are relevant to my present problem. I neglect all aspects of my present situation and of the previous experiences which my images reproduce in fragments, except those which bear upon my present purpose of getting to a certain place as rapidly and pleasantly as possible.

Conceptual Thought

I am thus moving on to the plane of *conceptual thought*, for conception is the explicit recognition of sameness, of the universal elements experienced in a diversity of particular events. My conception of the 'bus itself, for instance, is the recognition of its essential character of " a public vehicle plying along a highway ", whether it be large or small, green or red, whether the seats run lengthways or transversely, whether I ride in it in December or May, for a part or the whole of the journey. My recognition of " 'Bus 73 " as such is similarly a conception, with the meaning somewhat narrowed, for now I refer not to " any vehicle of this character ", but to " any which takes a certain route ". And whether an image be clear or blurred, whether it reproduces, say, a corner of a church in Kensington as seen when riding in the 'bus, or a particular 'bus as I hailed it at Hyde Park Corner last Friday, in so far as it means " 'Bus 73 takes this route ", the image is an idea, an instrument of conceptual thought.

My recognition of the general meaning of the image does not hang in the air, so to speak ; psychologically there is no conception as such, independently of images (or words, as we shall presently see). Thought is essentially a process, and conception lies in the use I make of my images (or words) ; for the same image may mean different things in different contexts. The mental picture, for instance, of a woman wearing a flowered crinoline, may mean a particular actress

whom I saw playing in " Milestones ", a certain costume of the early Victorian period which I have seen in the London Museum, the durability of old brocades, the foolishness of fashions, the subjection of women, progress in the nineteenth century, or any one of a host of other particular things or general ideas, according to its place in a particular trend of thought. In our discussion of perception we saw that present sensations are simply points of attachment for the meaning, which is the important element, and which is derived from the relation of those sensations to our own needs and purposes. Now this is similarly true of an idea. The image (or word) is merely the point of attachment for the meaning, and the meaning is derived from our conative trends. In an idea, however, as contrasted with perception, the meaning is freed from the here and now ; it breaks away from the concrete and particular and becomes timeless and general. We can perceive and imagine, for example, dark or fair, tall or short, good-tempered and ill-mannered, stupid or intelligent persons, at a particular time and place ; whereas we may " think of " fairness, tallness, good temper, bad manners, stupidity and intelligence as such, independently of a given person, time and place. In other words, we can in the process of thought, abstract certain general aspects of experience from the concrete situation as perceived or imagined, and use these relevantly to our practical or theoretical purposes, as if they occurred as such.

Language and Thought

Images thus frequently serve as the instruments of thought. *Language* is another such instrument, and one which for many people is even more important than imagery, as we shall presently see. Language is of course much wider than mere speech. A nod, a frown, a beckoning finger, a smoke-column, drum-taps, a bugle-call, a mark carved on a tree-trunk or on a " message-stick ",—these are all examples of language, and of language that is deliberate and conventionalised. And besides these conventional forms, there are many kinds of " natural " language, which either spring

spontaneously from emotion and desire, as e.g. a cry of distress or pain ; or show some resemblance to the object or event signified, as e.g. the gestures of eating and drinking which one might make if stranded among people speaking an unknown tongue. Students of origins are agreed that conventional language has grown out of such natural forms, but all details of the process have been lost to us.

The establishment of some system of recognised signs, no matter how crude, was a step of the first importance for man in many different ways. By making communication easy, quick and reliable, language helped to knit early human societies together, enabled individuals to pool their experiences in facing the odds of Nature, and to make full use of the learning capacity of the young in preserving the gathered wisdom of the group. And of all forms of conventionalised symbols speech is clearly the most convenient, whether we consider it as a means of communication or as a tool of thought ; for having infinite possibilities of variation it is yet easily standardised, and the necessary apparatus is carried about with us wherever we go.

We pointed out in an earlier chapter that speech is not only a conventionalised code for the communication of deliberate ideas, but is also a form of behaviour. It is a special kind of behaviour which comes to be substituted for gestures, and for immediate bodily activity as a whole. At its simplest levels it has the closest possible relation with the emotions and instinctive responses. This is the reason why so many simple direct words tend to fall into discredit as the growing complexity of social life puts a premium upon the control of impulse ; why e.g. so many Anglo-Saxon words referring to parts of the body or to sexual acts become *taboo* in polite society. We may not say " belly " for example, although we are allowed (if it is really necessary !) to refer to the " abdomen " ; the latter, being a borrowed word, has the air of impersonality and does not so readily stir emotions and impulses. Now we may smile at our own sophistication and rather childish fear of direct reference to the fundamental facts of life, but this shunning of the simpler older words

which so readily stimulate emotion is but an example of the persistent efforts which man has had to make to free himself from the domination of immediate impulse. In order to have time for thought he has had to learn to inhibit the tendency to immediate response, and to keep emotion in check. The substitution of relatively depersonalised and de-emotionalised words, which finds its most complete expression in a technical scientific phraseology, is a great aid in that direction.

Another persistent effort which we make in our growth towards thought is to standardise and make constant the *meanings* of the words we use. Meaning is not inherent in words, even less so than it is in images. The word as spoken or read is a mere succession of sounds and movements, or of queer little black marks on a sheet of paper. Its meaning comes from the use we make of it. That is why the meanings of words change in spite of the efforts of all the dictionary-makers, why for instance " I don't think " has become an emphatic form of affirmation ; and why " It is a fine day ", sometimes means " Let us talk ".[1] The dictionaries themselves stand for the effort to ensure that we should all make the same use of words. We can, as it were, distil a general use out of many particular uses, and try to insist that all future particular uses shall conform to this common standard. The movements of life are often too much for us, however, and words do change their meanings. Not only so, but as everyone knows who listens to a debate, it is extremely difficult to ensure that any given word is being used in the same sense even at one time by a number of different people. And the more abstract and general a term is the more varied are the senses in which it is interpreted by those who use it. A whole book has recently been written to fix a clear meaning to the term " democracy ", which is perhaps more bandied about to-day than any other abstract word. Each thinker brings to the use of this word his own knowledge, his own individual experience and his own immediate purposes ; its

[1] See F. C. S. Schiller: " The Meaning of ' Meaning ' ", " Mind ", Vol. XXIX, N.S. No. 116.

meaning thus tends to vary with the individual. We can never eliminate this element of purpose from our tools of thought, for their purpose is their meaning. We can only by full comparison of individual uses of words try to arrive at and to fix a common general meaning, to ensure a common general use.

Words are clearly superior to concrete images as instruments of thought. In the first place, being primarily spoken aloud and therefore social, words lend themselves to standardisation of meaning more readily than images, for the latter are essentially private and personal, only becoming common property by projection into some verbal or material medium. In the second place, although words, like images, are particular events in themselves, they have no resemblances to other things perceived, and hence do not distract the attention by their concrete detail, but allow it to fasten upon the meaning. They are counters, rather than things, and thus are better servants for the purposes of thought. We may indeed say that the higher processes of abstract thought cannot go on at all without the instrument of an analytic language. This is so true that very many people whose interests lie in abstract problems cease to pay any attention to concrete imagery, and do their thinking entirely or almost entirely in terms of words. Sometimes a process of thought is carried on in images of a verbal kind : sometimes not even verbal imagery can be detected by introspection. Such people are spoken of as " imageless thinkers " and their existence has been fully established, in spite of the fact that those who do use images find it very hard to believe that thinking can go on without them. It is still not finally agreed what the mechanism of thought is when not even verbal imagery (words seen, or heard, or felt in imagination) is experienced, but there is strong presumptive evidence of an experimental kind which suggests that the thought processes occur in these individuals in the shape of delicate movements, actual or incipient, of the speech mechanisms, movements which are too delicate for detection by the thinker himself, but which can be recorded by suitable

apparatus. We may pretty safely assume that this is so until the contrary is proven. Hence we may say that thought always proceeds in terms either of concrete images of objects and events, of verbal images, of actual movements of the speech apparatus, or of all these together. Thought *is not* either images or words, but consists in the use we make of these.

Thought as Postponed Response

Thought may be regarded from one point of view as a postponed response, for sooner or later it issues in action. It takes origin moreover in what Dewey has called a " forked-road situation ", a situation in which more than one response is possible, action being held up until the alternatives have been " thought out ". In this thinking out I review all the facts relevant to the situation which I can remember, and try to anticipate the probable results of the alternative courses of action, so as to base my response not upon mere present impulse aroused directly by a perceived situation, nor upon the stimulus of a single memory image, but upon the reasoned implications of the present situation in the light of my own past experience and that of others. " A thinking being can act upon the basis of the absent and the future. . . . An animal without thought may go into its hole when rain threatens because of some immediate stimulus to its organism. A thinking agent will perceive that certain given facts are probable signs of a future rain and will take steps in the light of this anticipated future. To plant seeds, to cultivate the soil, to harvest grain, are intentional acts, possible only to a being who has learned to subordinate the immediately felt elements of an experience to those values which these hint at and prophesy ".[1]

The process of thought ends in a state of *belief*, belief in certain facts, upon which we take action. Belief indeed may be described as the readiness to take action upon the " facts " which are believed in. It is a safe guide for action just in so far as it corresponds to the real facts ; and the ascertainment

[1] Dewey : " How We Think ".

of the real facts often involves a long and patient inquiry. The state of doubt, however, is one of painful tension ; and behind the effort of thought the emotions and impulses in which it originated are ever pressing. Hence we tend to foreclose on the process of inquiry and to hasten to our beliefs on any ground save that of dispassionate examination of the evidence. Prejudice and passion are more frequently the sources of our beliefs than we realise, and unconscious mechanisms are ever at work determining the course of our conscious thought. As a writer in the " Church Times " (September 1910) remarked, " On the whole, it is true to say that in the great decisions of life, when we have to choose between Christianity and infidelity ; between Anglicanism and Romanism ; between Conservatism and Socialism, the decision is only made superficially on intellectual grounds, and would be made all the same however much weaker the evidence was ".[1] We have to admit that this is often true in regard to certain issues such as politics, religion or sexual morality, even in those individuals who are in the main reasonable and intelligent. Thought is by no means all-powerful in the control and direction of impulse, in spite of the technique of logic and science, which are in part the expression of our efforts to strengthen the hands of reason, and curb our rebel passions.

Thought as a Rational Purpose

We have so far regarded thought as it is directed to practical ends, and there is no doubt that this is its primary significance, intelligence having been developed in the service of the instincts. " Curiosity " is indeed one of the primary impulses of many of the higher animals and of man. In many of the wild mammals a new and strange object which does not at once arouse the stronger fear-instinct will awaken an impulse to draw near and inspect the novelty. Such a curiosity appears to be merely sporadic and temporary in the adult animal, but what Dr. Chalmers Mitchell has called " the experimental curiosity of youth " seems to be a genuine

[1] Quoted by G. Wallas in " The Great Society ".

and universal characteristic of the young of many species. The kitten and the puppy spend a great deal of activity in the exploration of their environment according to their measure, and the human child of early years hardly knows a limit to his restless and persistent inquiries into the what and the why and the wherefore. In man, moreover, the impulse ceases to be a mere impulse to see and to sniff, to poke about and to manipulate things directly. It has mainly that character in the infant and young child, but memory, imagination and conceptual thought transform this as other impulses, carrying it up to the higher levels of mental process. Thought itself, working over this primary impulse of curiosity, erects it into a deliberate human purpose. *To know* ceases to be merely a means to other ends, and becomes itself one of the supreme ends of human activity, organising other impulses and systems of habit in its own services. For a Newton, a Darwin, and many lesser minds, the pursuit of truth for its own sake becomes a master-purpose, commanding endless devotion, ordering and sustaining all the minor activities of a lifetime.

The transformation of this simple " instinct " into a stable purpose having the stamp of rationality is but one example of the profound changes which are brought about in impulse and emotion generally, under the influence of memory, imagination and thought.

CHAPTER VIII

INSTINCT AND INTELLIGENCE. III

The Transformation of Instinct

WE are indebted for a very useful interpretation of the way in which character is built up from the raw material of instinct to the studies of two English psychologists, McDougall [1] and Shand.[2] Apart from the work of Freud and Jung on the unconscious mind, no thinkers have approached this problem in a more suggestive manner. They seem to take us, perhaps, as far towards a satisfactory theory of character-formation as it is possible to go upon a direct study of conscious experience and behaviour, without reference to the unconscious material and the mechanisms which are revealed by the psychoanalytic method. We shall discuss the latter briefly in our next chapter, and for the present may confine ourselves to the point of view associated with the names of McDougall and Shand.[3]

If we compare the behaviour of a child and an adult in equivalent situations we shall readily see that the responses of the adult are much more complicated than those of the child. Let us consider some examples directly.

A boy wandering idly in a summer field to gather flowers suddenly sees what he takes to be a fierce bull moving quickly

[1] W. McDougall: "Social Psychology".

[2] A. F. Shand: "The Foundations of Character".

[3] There are many important differences between McDougall and Shand, but there is so much fundamental agreement that we may speak of "a point of view", in such a preliminary account.

in his direction. At once fear seizes hold of him and he runs blindly away to the nearest refuge, or rather to the first refuge he sees, whether it be actually the nearest or not. His terror possesses him utterly; it is simple, direct and unqualified. He cannot think; he can only run. His father, crossing the same field and seeing the same animal coming towards him, may experience a momentary tremor, a sudden quickening of the heart-beat and blenching of the face, and an impulse to hasten his steps. At once, however, the thought might occur, "Dangerous animals are not put in fields with a public footpath"; and the fear would be checked. As the bull still advanced in a threatening manner, memories of incidents heard of in which people had been gored would crowd into mind, probably to be dismissed as having happened in different circumstances. As the animal neared, fear would reassert itself, but the habit of adult dignity, the idealised image of himself as cool and collected, a certain scorn and rejection of the fear would struggle with the impulse of flight in the man. There would be a half-ashamed wondering as to whether he were observed, and if he knew that others were watching, he would probably attempt to retain his dignity even when the intentions of the animal became too plain, and flight was imperative. And even when fear had its way there would still be some rapid consideration of the facts of the situation, of the position and distance of the hedges, trees and gates in relation to the bull and himself, so that the most effective line of retreat could be taken. The simple fear-impulse would not have blind and undisputed sway in the man as in the child, but would be held in check by counter-impulses coming from other emotional sources; its expression, moreover, would be better adapted to the details of the actual situation.

Again, a young child has been promised a picnic excursion on a certain day and has eagerly pictured its delights beforehand. When the day comes it brings disappointment, for the weather is too wet for the outing. The child weeps unrestrainedly with bitter angry sorrow, and for a time can find no consolation. The whole world seems blank and

dreary. But his grief does not last very long; presently he has found a new game or an old loved tale, and the disappointment is forgotten in his new absorption. The adult in like case looks at the rain with much irritation, but does not normally abandon himself to grief or anger. (If he does so we say he is " childish ".) He remembers the yesterdays and the to-morrows, tempers his annoyance with wise saws about English weather and human destiny, and possibly consoles himself with the thought that the rain is needed for the crops. Yet his mood of mild disappointment may last long after the child has quite forgotten his.

Again, two children are playing together, and one in a moment's malice or carelessness injures a plaything belonging to the other. The owner immediately responds in vehement anger with tears and blows. The storm while it lasts is a wild one; but ere long it has blown over and the children are playing together as sunnily as ever. From laughter to tears and back to laughter again is a quick passage in childhood.

A man of business or of property, suffering a loss of like relative magnitude through the ill-will of another, does not normally vent his anger impulsively and without restraint. If his moral ideas are poor and mean he will take revenge, as the child retaliates, but he will probably bide his time and place, in order to do so to his enemy's greatest and his own least injury. He may take his revenge and pass on, yet probably never forgetting the evil suffered. Or if circumstances are against him and the injury was great he may brood over the possibility of retaliation until this becomes the main purpose of his life, filling all his imagination and dominating all his desires. If, on the other hand, his personal ideals forbid revenge, there may be a long inner struggle between the desire to retaliate and those ideals of forbearance and magnanimity. Perhaps native anger will not be allowed any material expression. In rare cases, indeed, it will be checked so near its source as scarcely to be felt as a conscious impulse; and it may even be replaced by immediate goodwill and forgiveness.

Once more, a young child is left alone in a room with some tempting sweet which he has been forbidden to touch without permission. The sight of it at once calls out the impulse to take and to eat it. If quite young he may do so immediately, forgetting the prohibition, or in spite of it. Compare with this the case of a sentry struggling with the insistent desire for sleep after long fatigue, a desire issuing from every fibre of a wearied body. Off duty he would yield at once and sink down to sleep almost where he stood, no noise or discomfort being able to keep him awake. Yet now this crying desire meets counterforces still stronger which battle with it successfully through the long watch. Fears of a near alarm, thoughts of his comrades' trust, of his country's safety, of the pride of " the old folks at home ", surge through his mind. The habit and discipline of years, a present fear of the death penalty, his honour and pride in his regiment, memories of past courage, hopes for future promotion and a host of other strands are woven into the web which keeps him erect and alert at his post. Here is not one simple impulse striving against another, but all the forces of his " will " and personality brought into play for the subjugation of a desire which in the child would have had single and undisputed sway.

The Sentiments

Summarising these differences between the reactions of the child and the adult, we may say that the child is relatively at the mercy of the passing moment. His responses are comparatively isolated and unorganised. He feels to the full each emotion as it is aroused, giving himself up to anger or fear or laughter or wonder in turn, scarcely tempered by past experience or by possible results. The normal adult, however, rarely responds to a situation with a simple unqualified emotion or direct instinctive reaction. Experienced pleasure and pain have " conditioned " his reflexes, and have settled his habits, which either inhibit or alter the expression of native responses. More important still, his various emotions and impulses have become organised, under the

play of memory and reflection, into larger conative systems which embody in their structure and mode of functioning the complex results of past experience. To these larger mental dispositions, compounded of various emotional tendencies, built into a whole during the lifetime of the individual, McDougall applies the term *sentiments*. Most of our conduct in mature life is inspired and directed by one or other of the sentiments, such as affection for a friend, or wife, or child, the love of home or country, devotion to the pursuit of wealth or power, hatred of social injustice or tyranny.

These dispositions are *acquired* ; we are born with instincts, but not with sentiments. A child is born with the impulse to seek nourishment from the maternal breast and shelter in the maternal arms ; the impulse to run to his mother's side when a stranger appears, to smile in response to his mother's smile, and to weep when she frowns, all these various impulses are innate. The settled sentiment of *love* for his mother however, the deep abiding disposition to seek her society and to further her happiness, a disposition involving many organised activities and having many varied emotions at its disposal, this is a growth of individual experience. Yet we must clearly remember that a sentiment is not acquired in the sense that the individual gets it from outside himself. It is but a transformation of innate tendencies ; the constituent elements of a sentiment are themselves given in the inherited constitution of the individual ; it is their *organisation* which is acquired.

In everyday conversation we sometimes speak of the " emotion " of love or of hate ; but a little reflection would show us that love and hate are dispositions very different in kind from the primary emotions such as fear and anger. The former are much more persistent and stable than the latter ; a love may dominate a lifetime, whereas the simpler emotions come and go hour by hour and day by day. Love and hate are, moreover, much more complex than fear and anger ; indeed they include the simpler emotions within their own circle. The poets, who are sometimes better observers of

human nature than the philosophers, have long told us this.[1] Listen to Shakespeare's shepherd :—[2]

Phœbe. " Good shepherd, tell this youth what 'tis to love ".

Sylvius " It is to be all made of sighs and tears :—
All made of passion, and all made of wishes ;
All adoration, duty and observance ;
All humbleness, all patience and impatience ;
All purity, all trial, all observance ".

And to Chaucer :—[3]

" The life of love is full contrarie,
For now the lover is joious,
Now can he plain, now making moan ".

To Swift :—

" Love why do we one passion call,
When 'tis a compound of them all ?
Where hot and cold, where sharp and sweet,
In all their equipages meet ;
Where pleasures mixed with pains appear,
Sorrow with Joy, and Hope with Fear ".

And to Coleridge :—

" All thoughts, all passions, all delights,
Whatever stirs this mortal frame,
All are but ministers of love,
And feed his sacred flame ".

There is clearly an exaggeration here, for if this were true there could be little distinction between love and hate. Nor can we accept the details of any single poetic analysis just as it stands, but must follow up the poet's suggestions with a more systematic and sober examination. Yet these passages indicate a truth of the first importance, viz. that love and hate are highly complex dispositions, not to be reduced to any one single feeling or tendency. We cannot even speak of love, as Herbert Spencer does, as " a compound

[1] For the quotations following we are indebted to Shand.
[2] " As You Like It ", Act v, Scene ii.
[3] " The Romaunt of the Rose " : Line 2,297 *et seq.*

feeling"; for in the words of Shand,[1] "The compound feeling, so far as its composition remains unchanged, acts in all times, places and situations in the same way. However greatly the situation may change, it can only respond to this situation with the same behaviour evoked by its compound emotion. Such a theory cannot account for the great diversity of the behaviour of love in different situations, as well as the corresponding diversity of its emotions. Several of these emotions may indeed blend into one where the situation is such as to evoke them together; but how often do different situations evoke different emotions? For the situation of presence contrasts with that of absence, and prosperity with adversity, and love responds to the one with joy, and with sorrow and longing to the other. The anticipation of the future changes; and, in correspondence with it, love is sometimes full of hope and sometimes sunk in despondency. The remembrance of the past changes; and responding to it, love is sometimes filled with thankfulness and sometimes with remorse. The situation of danger contrasts with the situation of security; and responding to the first, love feels anxiety, and to the second, confidence. The plots of enemies contrast with the help of friends; and love responds in the one case with suspicion and anger, and in the other with trust and gratitude. The situation in which love is placed may be one of those referred to; and, in the course of its history it may pass successively through all of them. Love, therefore, cannot be reduced to a single compound feeling; it must organise a number of different emotional dispositions capable of evoking in different situations the appropriate behaviour".[1]

And again, "In the love of an object, there is pleasure in presence, and desire in absence, hope or despondency in anticipation, fear in the expectation of its loss, injury or destruction, surprise or astonishment in its unexpected changes, anger when the course of our interest is opposed or frustrated, elation when we triumph over obstacles, satisfaction or disappointment in attaining our desire, regret in

[1]Shand: "The Foundations of Character", p. 55.

the loss, injury or destruction of the object, joy in its restoration or improvement, and admiration for its superior quality or excellence. And this series of emotions occurs now in one order, now in another, when the appropriate conditions are present". With inversion of conditions, these same emotions "repeat themselves in the life history of every sentiment which we name dislike or hatred. There is pain instead of pleasure in the presence of the object, desire to be rid of it, to escape its presence, except we can injure or lower its quality, anger or fear when it is thrust upon us or persists, regret or grief, not in its loss or injury, but in its presence and prosperous state".[1] These greater mental dispositions then, directed towards the persons or things or ideals which we have learned to love or hate, are the mainsprings of our conduct in adult life. Drawing their own energy from the simpler innate emotional tendencies of which they are built up, they yet transform the latter almost out of recognition. We must now inquire a little more closely into the development of these sentiments.

The Development of the Sentiments

We spoke of the young child as being a creature of passing impulse. Even in infancy, however, this ceases to be entirely true. Mere impulse is unconscious of its end; but with the appearance of memory-images of former pleasures and pains, impulse loses its blindness and becomes aware of its goal. *Desire* is born; and desire is aware, no matter how dimly, of the end of its striving. This is the first great step away from instinct and towards the developed will. As the child's experiences clarify his memories the awareness of what he wants becomes increasingly defined. And this awareness itself reinforces the original impulse (unless it is counteracted by memories of painful results of previous action), keeping it alive indeed when there is no external stimulus present or when mere impulse would be satisfied or exhausted. "The excitement and maintenance of emotions by ideas destroys the original balance of the instincts, and

[1] Shand: "Character and the Emotions", "Mind", N.S. Vol. V.

renders possible the debasement as well as the elevation of human character ". This is one reason why man becomes a devil in his cruelty and lust, and an angel in his mercy and tenderness and long-suffering.

The images, moreover, which accompany the tension of desire in the child recall to him not only the actual satisfaction of his craving, but the total situation at the time of this former satisfaction; and these memories will re-evoke all the emotions then experienced. In our case of the child finding himself alone with a forbidden sweetmeat, for example, at a slightly later stage of experience, the present sight of the tempting stuff will not only " make his mouth water ", but will arouse memories of all that occurred on the last similar occasion. He may recall the pain of a whipping, and fear of its repetition arises; or the grieved face and reproving voice of his tender mother may be imaged, and the terrible feeling of isolation which these bring to him may be again lived through. Or there may be a pleasant memory of his mother's approval because on the last occasion he had asked permission before eating, and this will renew a feeling of tenderness and a sense of unity with the loved parents. His actual behaviour now will be a resultant of all these opposing or mutually reinforcing tendencies. We have here a still relatively simple situation, but we can see that the child is coming *to react to any given stimulus with more and more of his total self*. And this is brought about (in part) through the mediation of memories and ideas. It is not only that we remember what has happened to us as a result of former actions, but that the returning images call out again the former emotions and impulses, in relation to the present situation, and the latter are thus gradually woven into a single but complex system of response, which functions as a whole whenever a similar situation is met again.

This tendency to organisation, however, is not something entirely new, occurring only under the influence of images and ideas. It is inherent in mental activity. The simple emotions themselves show it, for they too are " systems ", in the sense that the details of the organic changes which

they involve, and of the behaviour to which they give rise "all bear reference to a common end, and are more or less instrumental in promoting it".[1] Moreover, there are innate connections between the primary instincts, as for example between the maternal impulse and anger. Watch how the timid cat is transformed into a fury if harm is threatened to her young; or how closely the sexual impulse is related to pugnacity in both animals and man. Fear and anger have an intimate connection also, the former readily passing over into the latter in both individuals and nations. A true story is told of a Tommy in the South African war who on his first taste of fighting was overcome by abject fear. His companions were moving forward across an open space riddled by bullets from the concealed enemy, and he totally refused to go forward, rolling on the ground and whimpering with terror. His fellows left him and went ahead, but were presently astonished to see him tearing past them towards the enemy's positions, yelling with wild fury and blood-lust. A Boer bullet had reached him as he grovelled and nipped off a small piece of the lobe of his ear! And this trivial change in circumstances was sufficient to turn fear into fury.

The work of memory and reflection therefore is but to increase the range of this inherent systematisation of emotion and to carry it to a more complete development. Shand has expressed this in his fundamental "Law of Organisation". "*Mental activity tends, at first unconsciously, afterwards consciously, to produce and to sustain system and organisation*". In his profound and beautiful book he has shown the deep significance of this law for an understanding of human character.

The Master-Sentiments

The process of organisation of the primary emotion-impulses into the major dispositions which finally determine character and conduct is a long and slow one. With the approach of maturity, however, the chief landmarks are fixed, and the greater sentiments which will control the life activities of the individual are ripened. And among the

[1] Read McDougall, "Psychology", pp. 105–10, in this connection.

many loves or hates of things and persons and abstract ideals which each of us carries about, there are usually one or two which are dearer to us than the rest. These *master-sentiments* will dominate the lesser purposes if there is any conflict between them; as, for instance, when a man sacrifices his business, his home and presently his life, in order to serve his country in wartime, or in order to assert his freedom of conscience not to take part in a war. Sometimes two or three highly organised sentiments, incompatible with each other in many respects, may hold relatively equal sway in the one individual life, but in relation to different circumstances. Then it may be noted that we behave very differently in different times and places, so much so that we may say we are so many different "selves", the cityself, the golf-club self, the churchwarden self and the father-on-the-domestic-hearth self, perhaps. All may go well so long as we can keep these various selves apart, but if something happens to make them clash, there is trouble.

Self-Regard

The sentiment which appears to be indispensable to any "strength" of character, and which is most intimately involved in what we call the "will", is the *self-regarding sentiment.* This, like other dispositions of the love type, is a complex organisationof the primitive passions, directed towards furthering the welfare of its object, and maintaining a close relation with it. Here, however, the object of the sentiment is the self; not so much the actual self as the *ideal* self. The specific nucleus of this sentiment is given by the paired instincts of *self-assertion* and *self-abasement,* with their accompanying emotions of elation or "positive self-feeling" and subjection or negative "self-feeling", respectively. These paired instincts of opposite tendency are exhibited very early in the life of the human infant. The young child's delight in knocking down a tower of bricks built up by a patient elder, in throwing down a spoon for the elder to pick up, in banging the same spoon on the table and yelling as he does it in order to attract attention and admiration, his

common delight in walking along the tops of high walls, his imperious " Mamma, do this ", or " do that ", his obstinate defiance of commands ; these are all naïve expressions of the impulse to assert himself over his environment, his delight in himself as a power. His moods of compliance and suggestibility, his cries for assistance when he cannot get down from the wall, or is unable to reach something he wants, his shyness with visitors ; these are the simple expressions of negative self-feeling.

As with the other native impulses these two instincts are at first quite naïve and unreflective responses to immediate situations. Many influences are at work, however, to control and alter their expression. The child finds that there are definite limits to his power over things and people, definite conditions to the exercise of that power. He has to obey in order to rule. He delights in measuring his budding skill and strength against both the physical and the social worlds, and he slowly comes to understand how he may and how he may not succeed.

Pleasures and pains of one sort or another are his early teachers. The most significant of these are praise and blame, the implied or expressed approval and disapproval of parents and playmates. He is extremely quick to sense these, and his need of affection and fear of isolation, the ready response of his emotions to those shown by others, his immense dependence upon others for the satisfaction of his wants, these and a host of subtle influences slowly lead him to express his desires in ways compatible with his social environment. The approval and disapproval of those whom he loves or fears, moreover, are not only stimuli to his self-feelings ; they are also *judgments* upon his behaviour and thus serve to awaken his own reflection upon that behaviour. He often finds a discrepancy between what he feels about himself and what others remark about him, or express in their conduct towards him. He is thus led to think about himself as a person in relation to other persons ; and with the slow growth of memory, imagination and thought, *self-consciousness* develops.

The child, moreover, early ponders over the sayings and doings of other people as well as his own. Every observer of children can quote instances of this. "God is not a Christian if He is angry", said one little child; and another remarked to his aunt who had refused to let him play with a treasured piece of china on the ground that she had had it "such a long time", "Then don't you think it is selfish of an old lady like you not to let a little boy play with it for a few minutes?" It is clear that the child here is not simply wheedling in order to get what he wants; he is doing that very amusingly, but there is an intellectual process going on also. He is trying to sort out all he has been taught about "selfishness", to see how the judgments that have often been passed upon himself fit other people (and if not, why not?). A real growth towards the general "ideal" of unselfishness is taking place. And throughout childhood many such ideals are developed. Some of these are generalised, as e.g. honesty, personal cleanliness and courtesy, loyalty to one's playfellows, and so on; some are concrete and particular, as e.g. to be captain of the school team, head of the form, or later, a soldier, explorer or inventor.

The formation of "ideals" depends in part upon intellectual processes, upon the growth of imagination and reflective thought. The abstract ideals (honesty, justice and the rest) are indeed little more than names until a certain level of intellectual development is reached, and desires come under the play of conceptual thought and reasoning. But each ideal has relation to one or more primary instincts; the abstract and highly socialised ideals to the complex interplay of many. Moreover, an ideal has always reference to the self-feelings. It is essentially *something I want to be or to do.* If I achieve the ideal my positive self-feeling is satisfied; if I fail, this is thwarted, and my negative self-feeling disagreeably stimulated.

We are all familiar with the early ideals of the little child when he wants to be a tram conductor, a policeman or a soldier. The child's mimicry of the conductor or policeman or doctor whom he wants to be gives us a key to the psycho-

logy of ideals. He imitates in action and dress, and in all the details which have struck his imagination, those who seem to him more powerful, more clever, more knowing, more free from restrictions than himself. He thus *identifies himself with them*, in order to satisfy his positive self-feeling, and to avoid the humiliation which comes from the sense of their superiority. With the increase of experience and the growth of knowledge and understanding, the range of personal ideals widens and their content is diversified. Yet the ideal remains essentially some person, some power, some quality, with which we identify ourselves in imagination and which we wish to achieve in reality.

This is clearly shown in the day-dreams of adolescence. There is never a more passionate longing for the ideal than at this time when the sense of social ineptitude and the difficulties of self-control are so keenly realised. The strong stimulus of self-consciousness and self-criticism which the ripening of the sexual instinct brings, and the full development of intelligence and power of abstract thought which is reached at the onset of adolescence, result in the growth of the self-regarding sentiment. The content of that sentiment, the particular ideals with which it is bound up, vary with the individual. And the self-feelings will only operate towards possible goods or achievements which are our ideals. As William James has said, " I who for the time have staked my all on being a psychologist, am mortified if others know much more psychology than I. But I am content to wallow in the grossest ignorance of Greek. My deficiencies there give me no sense of personal humiliation at all. Had I pretensions to be a linguist, it would have been just the reverse. So we have the paradox of a man shamed to death because he is only the second pugilist or the second oarsman in the world. That he is able to beat the whole population of the globe minus one is nothing; he has pitted himself to beat that one; and as long as he doesn't do that nothing else counts. He is to his own regard as if he were not, indeed he *is not*. Yonder puny fellow, however, whom everyone can beat, suffers no chagrin about it, for he has long ago aban-

doned the attempt to 'carry that line', as the merchants say, of self at all. With no attempt there can be no failure; with no failure no humiliation. So our self-feeling in this world depends entirely on what we back ourselves to be and do".[1]

In those individuals who achieve the highest levels of stability of character and of moral development, it would seem that the ideal of *self-control* forms an important ingredient in their conceptions of themselves. Such an ideal, consciously striven for, itself furthers and completes the inherent tendency to organisation of impulses. It is another example of how reflective thought takes up a naïve tendency and transforms it into a stable and rational purpose, just as we saw occurs with the instinct of curiosity.

The Will

The self-regarding sentiment when well developed is one of our strongest dispositions, just because it is so complexly organised, having its sources of energy in all the minor tendencies which strive towards the lesser and more particular ideals. And it is in the operation of this sentiment that we find the key to the problem of *the will*. The psychology of the will has always been a central problem, not only in psychology proper, but also in theories of conduct and the moral life. The act of choice does appear on the face of it a mysterious thing. To paraphrase James, when in the typical situation in which the will is exerted, we are "tempted", say, to be dishonest or selfish or revengeful or gluttonous, there is a natural propensity, P (from which the temptation arises), and I, the ideal impulse, the conscious ideal of honesty, generosity or temperance. I appears to be intrinsically weaker than P, but when E, the mysterious effort of the "will", is thrown into the balance, P is vanquished. I and E are together greater than P. What is this E? from whence does it draw that influx of energy which turns the scale? McDougall has suggested a very useful answer to this riddle. The extra energy which reinforces the ideal

[1] W. James: "Principles of Psychology", Vol. I., p. 310.

impulse is just that which is organised into the self-regarding sentiment. The act of will is the coming into operation of that sentiment. Impulse for impulse, any single ideal is weaker than a " natural propensity " or instinct, but when capitalised by a strongly developed sentiment of self-regard, which draws upon so many sources of psychic energy, I is able to defeat P. The ease and extent to which it can do this depends exactly on the degree to which it is itself an integral and important element in that larger disposition. It would be not inapt to compare this situation with the pooling of resources by the great banking companies to-day. A sudden emergency might cripple any one of them singly, but when the whole organisation is ready to come to the aid of each member, there are few demands so sudden or so large that they cannot be met.

We have, then, in our brief sketch of the work of the intelligence upon instinct arrived at the final and most complex level of integration of the personality. And it is clear that there is continuity of development from the beginning to the end. " The will " is made of the same stuff as are the primitive impulses. It *is* those primitive impulses, organised into larger mental systems, which bear in their inner structure the impress of experience, the results of memory, imagination and thought.

CHAPTER IX

THE CONSCIOUS AND THE UNCONSCIOUS

IN this chapter we are to gather up and develop a little more fully and systematically certain aspects of the mental life, viz :—the unconscious processes, which we have already glanced at here and there in passing. We have so far left these out of account in our discussion of the growth of character and will, considering only those processes which belong to the conscious life. Very clearly a great deal of human conduct can be explained on these lines, for the life of the ordinary " normal " human being does show a considerable degree of conscious order. We seem to move through many of our days fairly clear as to our feelings towards this person or that opinion, as to why we go to Margate for our holiday, decide not to buy a new overcoat this winter, or to vote against the Coalition candidate. Apparently we are regulating our lives on fairly coherent principles, and we are pretty well aware of what we are about. It is, of course, always easy to see the queer inconsistencies of other people ; yet on the whole our friends and acquaintances, too, seem to behave, if not in a completely rational manner, yet in a way that is easy to understand when we know their ruling passions and ideals. We could very well fit ourselves and them into the psychological scheme just outlined.

Slips and Forgettings

Every now and then, however, this orderly play of conscious desires and sentiments is disturbed, and something occurs to us which is apparently inexplicable. We forget to

keep an appointment, or to post an important letter, although we pride ourselves on carefulness in these things ; we cannot remember an apt quotation, a certain name or date, just when we most want it, although we have an excellent memory in the ordinary way. We become strangely clumsy for a day, and have a series of unaccountable accidents with china or tools. In conversation or a public speech, we say just the opposite to what we mean, often without noticing that we have done so, although others may note the mistake and smile.

Commonly we do not trouble to inquire very far into the sources of these occasional slips and forgettings. We take it as a matter of course that the human machine should sometimes get out of gear. We say " it just happened so ", as if no cause were needed, or we excuse ourselves on the ground of fatigue or ill-health. There can be no doubt that fatigue is a frequent and important factor in these failures of adjustment, for they tend to increase in number when we are tired. A friend of the writer noted, for example, that among the male staff of a certain University the number of facial cuts made in shaving (before the days of the safety razor) increased very considerably towards the end of a long and arduous term. And it is now well established that the number of accidents occurring in industry is much increased in the late hours of the morning and afternoon spells of work. Fatigue increases accidents because it lessens the speed and accuracy and co-ordination of responses. It also lowers the power of inhibiting emotions ; we are all inclined, for example, to be more easily " irritable " when we are weary. We cannot, however, look upon fatigue as more than a predisposing condition for the slips and forgettings we are considering. It is neither a complete nor an indispensable cause, for these things often occur when we are not tired. Moreover, as the student should now readily appreciate, it is a gross mistake to think of the memory or the muscles as self-propelled machines which work independently of desires and emotions. Memory and thought, speech and bodily responses are most intimately connected with the instinct-emotions, and are

indeed solely sustained by energy drawn from these sources. We must therefore turn to the latter for the specific determining conditions of *all* our behaviour.

Sometimes these trivial disturbances of our conscious intentions are at once readily traceable to some motive, apparent to the observer, although not to the subject. An example is the case of the minister of religion who was an earnest speaker at a meeting of representatives of various religious sects. A meeting was called to promote Christian unity and to break down denominational barriers. Advocating sympathy and tolerance among the sects, the speaker said, "My brothers, we are all serving the dear LORD, each according to his lights. You are serving Him in your way, and *I, in His.*" And the minister passed on quite unaware of what he had said, and vaguely wondered why he did not arouse as much enthusiasm for united action as he had hoped to do!

It is easy to see the origin of this slip of the tongue. Very clearly there was a conflict in the mind of the worthy minister, between his genuine brotherly love and desire for unity on the one hand and his secret, perhaps unconscious belief, that, when all was said, *he* was nearer to the essential truth than anyone else. Now we have here the typical situation which results in temporary failure of memory and co-ordination. Our behaviour is always the resultant of many complex tendencies. The currents and counter-currents of our emotions are variously stimulated by ever-changing circumstances, and any equilibrium we attain must necessarily be a moving equilibrium. And if there be any dispositions which in the course of development have not been worked into a harmonious whole with our conscious intentions, these latter are liable to be disturbed, either by a temporary weakening of conscious control due to fatigue or illness, or by a sudden strong stimulation of the rebellious tendencies by a particular situation. In fact we have in these temporary failures of adjustment the obverse of the picture we drew in our last chapter. There we considered the *organisation* of emotion-impulses; here we are dealing with their *conflict.*

Neurotic Symptoms

Our examples of behaviour which is out of harmony with conscious purposes have so far been of a trivial everyday order; trivial, that is to say, in social importance, but by no means so from the point of view of science. Consider, however, some more striking examples, such as the inexplicable fears from which many people suffer. A lady known to the writer confesses to great fear of the moving stairways in the London Tubes, which she is quite at a loss to understand, for she has no general timidity and can jump on or off a moving 'bus without a qualm. A young man who has borne himself creditably in trying situations in the trenches and gained honours for his courage, on returning from the war develops an extreme terror of mice: he does not know why this is so and is much ashamed of his "absurd" weakness. Many cases have been recorded of excessive fear of closed spaces, such as tunnels, narrow passages, the "Tube" or military trenches; and also of the opposite fear of wide open spaces. These fears in people otherwise normally courageous are often so strong that the victim endures agonies if he cannot arrange his circumstances so as to avoid such situations. Other forms of behaviour which seem to have no cause are shown in the cases of impulsive acts and obsessive ideas. It is well known, for example, that Dr. Johnson felt compelled, whenever he walked alongside a fence, to touch every separate railing as he passed it, and if one were missed he could not proceed until he had gone back to touch it. A "mania" for washing certain things or certain parts of the body is by no means uncommon; in one lady of the writer's knowledge, the compulsion is to wash the hair, and this is done with such excessive frequency as seriously to injure its growth. Suicidal tendencies may be of this compulsive type, and stealing is often of this character both in children and in adults. In these cases the individual may have high personal ideals and be in all other respects quite honest and trustworthy, but he is inwardly compelled to steal certain articles,—perhaps boots, or a horse and trap,—even at considerable risk. Often no attempt is made to profit by the stolen goods; it is the

actual *stealing* that matters. Stealing of this kind is clearly a " neurosis ", and as in other neuroses, the individual is quite unaware of why he does these things. He can furnish no real explanation of the matter, although he may try to invent a reason for what he feels impelled to do without a reason. The real motive of his conduct, however, is inaccessible to self-observation, and indeed to the observation of others, except by a special technique ; in other words it is *unconscious.*

Post-Hypnotic Suggestion

There is one phenomenon which can be experimentally produced under appropriate conditions, and which demonstrates very simply and clearly that conscious behaviour can issue from influences which are themselves quite unconscious, viz. the phenomenon of *post-hypnotic suggestion.* The hypnotic trance is a very complex phenomenon, but it is sufficient for our purpose here to say that it is an artificially induced condition very like normal sleep in many respects ; and that in this condition, the suggestibility of the subject is very greatly increased. Now if while a subject is in the hypnotic trance the experimenter tells him that at a certain hour, let us say noon the following day, the subject will perform a certain action, such as opening and shutting his umbrella six times in the drawing-room, or putting the clock back two hours, and the subject is then aroused from the trance, nothing further being said to him about the command, he will remember nothing whatever about it. At the appointed hour, however, the action will be unfailingly carried out ; but still without any memory of the actual command. If the individual be asked why he behaved in this strange manner he will show confusion, and will either confess that he does not know or more commonly will invent a reason on the spot, thus " rationalising " action which he cannot choose but carry out. The disposition set into operation by the command of the hypnotist is thus able to break into the sequence of conscious life, just as the neurotic compulsion or phobia does, and yet remains itself inaccessible to conscious recall.

This is clearly a different kind of unconsciousness from that of habitual actions. As the reader must know from many experiences, habitual movements such as are involved in writing, knitting, cycling or playing a musical instrument, require considerable conscious effort of attention when they are being learned ; but as skill and ease are acquired they become more and more automatic, being carried on successfully in the end " without thought ". If at any time, however, we wish to recall the details of a habitual series of movements, we can do so. Normally unconscious, they are not inaccessible to consciousness when we need to review them. And so with the vast bulk of our memories. We are actually aware at any one time of only a very small proportion of the memories which we possess and can recall upon occasion ; the rest is at that time strictly *un*conscious, without consciousness. It can, however, become conscious, whereas the sources of compulsive acts, phobias and obsessions, of hysterical pains and postures, these *cannot* become conscious in the ordinary way, no matter how greatly the individual desires to recall them. The unconsciousness here has a more positive quality ; there appears to be not a mere lack of unconsciousness but a positive barrier between these tendencies and the conscious self. How can this barrier be passed, and the hidden sources of the behaviour in question be discovered ?

Methods of Studying the Unconscious

There are several avenues of approach to the unconscious mind, which are held in varying esteem by different students and practitioners. We have space to make brief reference to two only,—hypnotism and psychoanalysis. We have already referred to the greatly enhanced suggestibility of the subject under *hypnosis*. The fact of immediate interest to us is that the range of personal memories is very greatly increased, and incidents of early childhood or of recent experience, which cannot be voluntarily recalled in waking life, are vividly remembered and described by the subject in reply to the questions and hints of the hypnotist. The experiences and reactions of the patient which are thus revealed to the

physician often yield considerable insight into his symptoms, and can be used as the basis of suggestion and advice, both in the hypnotic and the waking states. This method of exploring the unconscious sources of neurotic symptoms has long been practised by many psychologists in cases of hysteria, compulsive acts and obsessive ideas.

Considerable use was made of it during the recent war by some physicians in dealing with hysterical deaf-mutism, functional paralysis, anxiety-states and other forms of " war-neurosis ". In a large number of these cases the symptoms were accompanied by loss of memory of certain definite incidents of war-experience, and it was found that the cure or alleviation of the symptoms was intimately dependent upon the recovery of these memories, which were, indeed, not really lost, but temporarily barred out of the ordinary personal consciousness. We shall see the significance of these facts presently.

Psychoanalysis

Psychoanalysis, as we noted in Chapter III, relies mainly upon the method of " free association " in the waking state. The subject is encouraged to relax all physical and mental tension and to wander in thought wherever his memories may lead him, reporting all his associations, whatever they be, to the analyst. Such " undirected thinking " is determined differently from the " directed thinking " of our practical life or theoretical inquiries. In the latter we are concerned with some real situation in the physical or social world to which we have to adjust our beliefs and our behaviour, and the images and thoughts which crowd into the mind are more or less relevant to this problem, according to the degree of our concentration upon it. As these images and ideas surge up we criticise, select and reject them, the whole course of thought being kept close to the facts of physical reality or of moral and æsthetic values. In " undirected thinking ", however, as experienced in the day-dream or reverie, we temporarily withdraw from the pressure of reality, and the course of our thoughts is determined more by inner factors than by outer,

more by our hopes and wishes than by the facts of circumstance. We allow desires which are baffled by external conditions or by moral considerations to surge forward and fulfil themselves in Castles in Spain, and for the moment the dream world is the real world. The grip of reason, of moral and æsthetic criticism, is temporarily and to some degree relaxed, and we indulge wishes in fantasy which we should never allow play in real life. Whenever we relax into this dream-mood of " free association " our fantasies and memories express the strongest desires and impulses working within us at the time, subjective values being spontaneously revealed in proportion as the necessity for objective adjustment is in abeyance.

Now in analysis this relaxation is deliberately sought, and is carried much further than in the day-dream of ordinary life. For in the latter, with the normal person, the claims of reason and morality are never entirely set on one side. Their vigilance is lessened, but not beyond a certain point. In the process of analysis, however, criticism as to the absurdity, impossibility or incongruity of our images and desires is deliberately suspended for the time being in order that the subject may come to detailed knowledge of what his actual impulses are. It is not easy to abrogate self-criticism, to set inhibitions on one side, to admit to oneself and to make known to another the welling up of tendencies which are in conflict with cherished personal ideals, and accepted conventions. The analyst, however, by complete sympathy and abstention from criticism on moral or logical grounds, enables the subject gradually to overcome his " resistances ", and to make open acknowledgment of previously unadmitted " wishes ". The more superficial resistances are first overcome, the process being gradually carried deeper and deeper, until it is found that tendencies which were previously quite unconscious to the subject are now spontaneously brought to light. And, as in hypnosis, many actual experiences of early or recent life which the subject was unable to remember voluntarily are now recalled through this unravelling of the complex web of emotional associations. Very usually a

dream experienced during sleep is taken as the starting-point of free association, for in the dream of the sleeping state the control of mental activity by practical necessities and by moral considerations is even more relaxed than in the day-dream ; unconscious " wishes " have thus far freer play than in the waking state, and unconscious mechanisms are more readily apparent. The dream does not, however, bear its meaning upon its face ; indeed it is often considered to have no meaning because of its superficial absurdity and chaos of incident and emotion. In Freud's terms, we have to distinguish between the "manifest " and the "latent" contents, the latter becoming known only by much patient study, and the interpretation of the work of the " unconscious mechanisms " in the light of free associations. By his knowledge of these mechanisms (which we shall presently discuss), and by his reading of the patient's reactions (e.g. signs of nervousness or restlessness, sighs, blushes, falterings, and so on) the analyst gains insight into the patient's emotional trends, and is thus able to assist the patient himself to understand what is going on in the unconscious levels of his mind. The analyst does not *tell* the patient his conclusions, but by putting the latter's significant associations side by side, by directing attention to particular elements in the dream or fantasy, he enables the patient to arrive at an understanding of himself. The work of the analyst is not to command, to suggest or to give judgment, but to assist in the process of self-understanding on the part of the patient, and this latter can only come about by the patient's own overcoming of his " resistances ".

We said just now that the unconsciousness attaching to the sources of neurotic symptoms appears to have a positive quality, as if they were actually barred out of the conscious life. The process of psychoanalysis shows that this is so, that the content of the " unconscious " is made up of tendencies (" wishes ") which have undergone *repression.*

Repression

It must be quite clear, even to the least observant mind, that human nature shows many strong innate tendencies

which, at least in their native form, are incompatible with the realities of social life as it has been shaped under the slowly accumulating moral and intellectual traditions of civilisation. Such dispositions (as, for example, anger and fear, greed and self-assertion) have to be inhibited or modified in expression under the influence of pleasure and pain. We are quite familiar with this process upon the conscious level, for it meets us every day in one form or another; and the last chapter was in part a study of the gradual adaptation of the child's reactions to social realities from the point of view of conscious experience. The whole adjustment, however, is not made upon the conscious level, but goes on to a very great extent in the deeper levels of the personality by means of this mechanism of repression, which not merely controls and inhibits the offending impulses, but prevents them from ever reaching consciousness in their native form.

This mechanism of repression may be regarded as a special form of the fundamental law of pleasure-pain; it is a literal *turning away* from what is painful. It is a turning away, however, not so much from an external stimulus as from a part of oneself, from those inner dispositions which seem to be incompatible with the demands of social life. For as the social self develops in early childhood we are not only asked to refrain from *doing* certain things, but we are expected not to *wish* to do these things. We come to feel pain or pleasure, shame or pride, not only in our words and deeds, but in what we *are*, in our secret longings and impulsions. "Keep thy heart with all diligence", we say, "for out of it are the issues of life"; and we would, if we could, root out the offending impulse from our very nature.

The conflict which calls out the mechanism of repression would at first sight appear to occur between the child's innate desires and the world outside him, between the individual and society. It is never entirely so; nor can it be, for society is itself but an expression of human nature, created and sustained by man himself, existing only through its members. It appears to any particular individual, however, and especially to the young unsocialised child, as a relatively

external force, inhibiting and directing his activities. Yet even from the first, society (in the persons of mother, father, nurse and teacher) is only able to act upon the child because of the specific character of the child's own impulses. Inherently he is submissive as well as assertive ; he reaches out to emotional unity with those around him ; he laughs if they laugh, and frowns or weeps if they scold. He has infinite need of their loving services and companionship, he naturally imitates their ways of action and frames his beliefs upon their suggestions. Thus, from the first the conflict is really an internal conflict ; it is, as it were, a civil war in which certain of the warring members are favoured, and others are hampered, by foreign relations. By repression an apparent victory may be secured for those tendencies which are in harmony with the necessities of social development.

Primitive and innate dispositions, however, can never be rooted out or destroyed. They are of the very stuff of the organism, and must persist in one form or another while life lasts. We may disown them, but they are ours none the less. We may block their way through into consciousness, but they remain dynamic, and continue to add their contribution to our total personality and behaviour. This was exemplified very simply in the case of the minister whom we quoted, who would probably have denied with indignation the charge of intolerance, and yet he unwittingly betrayed his secret belief in his own superiority. Another simple illustration is from the experience of a friend of the writer. This woman's husband had bought a new pair of chamois-leather gloves, and when they were soiled his wife washed them and put them out to dry. Upon the husband presently inquiring for them, however, they could not be found, and much searching for several days failed to discover them. After a time the importunity of the owner of the gloves compelled the wife to consider the matter seriously. She remembered having washed the gloves and put them to dry, but after that there was a blank, and this was a very unusual happening, for she was a careful and orderly person in such matters. Being something of a psychologist she proceeded to a careful self-analysis of

possible motives which could have led her unconsciously to *hide* the gloves. Presently she had to admit that just previous to the time when the gloves were purchased she herself had very much wanted a new pair, but had decided she could not afford them. When the husband had appeared with his new ones, she had certainly felt a momentary pang of envy and annoyance, never made explicit, and indeed repressed almost before it was felt. Now in the retrospective analysis this was fully admitted, and the whole emotional situation thoroughly worked over in consciousness, whereupon the lost memory was recovered. The gloves had been drying in the sitting-room hearth, and, a visitor being announced, they were hastily removed and put into a certain bag hanging on a chair. They would never have been put into this bag in the ordinary way and she could not " think what had possessed her " to put them there. The repressed envy had clearly led to an unconscious " dog-in-the-manger " attitude which, in a moment of distraction, had been able to control behaviour, and the memory of the place of hiding became dissociated from consciousness as a " wish-fulfilment ", being recovered only when the whole emotional reaction was admitted to consciousness in detail and subjected to conscious control rather than to unconscious repression.

The Complex

A dynamic system of such repressed tendencies with their associated memories is often spoken of as a *complex*. In its general structure the complex is clearly very much akin to the " interest " which we discussed in Chapter IV, or in the case of larger and more important complexes, to the " sentiment " which we studied in the last chapter, the important difference being that whereas the interest and the sentiments belong to the conscious life, the complex is essentially unconscious. One example of the larger and more significant complexes is the " authority-complex " which often develops in those who have been treated in too severe and despotic a manner in childhood. The individual who has such a complex is unable to judge dispassionately of any question which

directly or indirectly stirs up the emotions of fear and resentment, for these being too strongly repressed have not been tempered by experience. The individual cannot adjust himself to the objective facts of the present situation, but either shows a slavish obedience, self-distrust and dread of responsibility, or an exaggerated defiance of all authority, a love of blind " revolution ". He reacts negatively or positively in this childish way to parent and teacher, scientific or religious leader, social convention or form of Government, and his reaction is immoderate, just because it is based upon unconscious and infantile emotions. Yet he can always find ample " reasons " for his extreme attitude, fully convincing to himself, if not to others.

Like the sentiment, then, the complex is a system of dispositions, ready to function upon the appropriate stimulus. Unlike the sentiments, however, we are not aware of our complexes, indeed the essential point is that we are unaware of them ; yet they affect our conscious life, none the less surely and inevitably because indirectly. The mechanism of repression is of primary importance in the evolution of the social personality, and appears to be a universal and inevitable means of adjustment at certain stages of development, being applied over a wide range of infantile desires. There are, however, other unconscious mechanisms by which our intrapsychic conflicts are in some degree resolved.

Displacement and Sublimation

In Chapter V we spoke of *displacement*, the shifting of psychic energy (" affect ") from one object of desire to another, the opening up of new channels for the expression of the *horme* or *libido* when the paths of instinct are blocked by stern circumstance. We need do no more here than give one or two examples. It is clear that this mechanism is at work in our case of the returned officer who showed terror of mice, although we cannot tell without analysis *what* he was really afraid of. An example very easy to understand is that of a bailiff of excessively violent temper, who controlled his passions with great difficulty, and who was upon one

occasion walking in a field with a friend when a dispute occurred. The friend making remarks which incensed the first man as they happened to be passing grazing cattle, the angry man turned and struck a violent blow with his fist upon the nearest animal. Clearly this innocent animal was a substitute for the friend and provided a safety-valve for the passion which could not be bottled up. One is reminded of Maggie Tulliver in " The Mill on the Floss ", who used to vent her tempers upon her battered doll.

It is clear that displacement is an alternative to total repression as a solution of internal conflict. As we saw in our earlier discussion, there is one form of displacement which is spoken of as *sublimation*, for the objects upon which the affect is displaced, the forms of activity in which the infantile tendencies find expression, are well adjusted to reality, and compatible with social purposes. Instances of this socialised expression of tendencies, which in their native form are unacceptable to adult standards, are fortunately to be found on every hand. The subtle forms of self-display of the orator, the public lecturer, the artist, the athlete, the pretty woman, are socialised and variously useful expressions of the childish tendency to self-exhibition, which shows itself first in the naïve delight of the infant when the admiring circle of grown-ups praises his fine limbs or says " What a clever boy ! " The leader of men, the capable organiser, the teacher and the preacher, are expressing in socially useful activities the same self-assertive impulses which led to bullying of younger brothers and sisters, or to rebellion against parental authority, in more childish days. The student with a passion for scientific research is expressing in a highly sublimated form the intense curiosity which urged him as a little child secretly to ponder over the sources of life and the mysterious relations of his parents to each other and to himself. Psychoanalytic studies have often revealed the unconscious roots of these activities and made clear the complete continuity of personal development and the persistence of the primary nucleus of impulse through all phases of its expression. Sublimation is clearly the most desirable fate for the primitive tendencies,

since it puts the greater part of their energy at the service of the social life. The problems of the inner and outer conditions which favour this solution of the intrapsychic conflict is a matter of the greatest importance for the parent and the teacher.

Inversion

Another mechanism which provides an indirect means of expression is *inversion*, expression by the opposite. We are familiar with this very common tendency in many simple ways, as, for instance, in humorous nicknames, which often call attention to some outstanding quality of a person by directly referring to its opposite. One Ebenezer Garlick, for example, is known as " Sweet Vi'lets ".[1] We find the same thing in the fable of the Fox and the Sour Grapes. The grapes were *too* sweet for one who could not have them, so he dubbed them sour. Inversion is a frequent mechanism in dreams, serving to disguise the real wishes of the dreamer. It determines Hamlet's Player Queen to repudiate her secret desire for a new husband.

> " The instances that second marriage move
> Are base respects of thrift, but none of love. . . .
> Nor earth to me give food, nor heaven light.
> Sport and repose lock from me day and night,
> To desperation turn my trust and hope,
> An anchor's cheer in prison be my scope,
> Each opposite that blanks the face of joy
> Meet what I would have well and it destroy.
> Both here and hence pursue me lasting strife,
> If, once a widow, ever I be wife ".

And the remark of the real Queen reveals the truth,—

> " This lady doth protest too much, methinks ".

Inversion is very closely connected with *reaction-formation*, the building-up of tendencies exactly the opposite in character to those which are held in repression, as a safeguard against these latter. The ever-busy housewife, who martyrs herself

[1] W. H. Hudson : " A Shepherd's Life ".

and her friends in order to keep every corner of her dwelling spotless and shining, has swung too far in her reaction to the naïve infantile interest in physiological " dirt ". The Puritan has built up an excessive horror of forbidden delights as a barrier against the persistent unconscious seeking for such pleasures. The prude has reacted so strongly to the sexual instinct that she cannot even bear any indirect reference to its existence. (One lady, for instance, will speak of her breast, when it is necessary to do so for medical purposes, as her " neck ".) The lover of extreme decorum and propriety ; the over-conscious, for ever morbidly anxious to do the right ; the meticulously honest, fearful of the most minute breach of the truth ; the anti-vivisector, pulsating with horror at the thought of any infliction of pain, no matter how justified,— all these have solved their problems, not by the sublimation of primitive impulses, but by excessive reaction against them, by an apparently complete repression of them so that they seem to be annihilated. Yet that they are still powerful is shown by this very preoccupation with them in oneself or others. It cannot be denied that these reaction formations are useful solutions of the problems of conflict, but neither can it be held that they are as socially desirable as the sublimations, for they only provide a partial adjustment to social life, and much nervous energy is side-tracked in maintaining them.

Projection

Another mechanism affording relief to mental conflict is *projection*, the reading of one's own tendencies into other people. The liar is often the first man to suspect others of dishonesty and cunning ; the miser is quick to see meanness in his neighbours. The angry man in argument will accuse his opponents of heat and partiality, and the weak man rids himself of the shame of his weakness by saying " The woman tempted me, and I did eat ". It is always our own worst faults and those of which we are most ashamed which we are most ready to see in other people. Projection is in fact a defence against the pain of admitting as our own the tenden-

cies which we are impelled to censure. We cannot bear to recognise them as part of ourselves, and we relieve the inner tension by zealously castigating them in others. A universal mechanism in life, projection is, however, seen most typically in certain well known forms of insanity. "The chronic alcoholic develops with great frequency delusions concerning the conduct of his wife or other relatives. Thus, one of my patients complained bitterly that his wife was dissolute, a drunkard and a spendthrift, that she neglected both himself and the children, and that she allowed the home to go to rack and ruin. Investigation showed, however, that all these ideas were purely delusional, and without foundation in fact. The patient himself was the real culprit, and each statement that he made was true of himself but not of his wife. The psychological explanation of his delusions is to be found in the mechanism of projection. By its aid the patient's personality was enabled to treat the objectionable complex as an entire stranger for whom it was in no sense responsible, and thereby to substitute an illusory self-complacency for the pangs of remorse. . . . In 'Old Maid's Insanity', an unmarried lady of considerable age and of blameless reputation begins to complain of the undesirable attentions to which she is subjected by some male acquaintance. She explains that the man is obviously anxious to marry her, and persistently follows her about. Finally, certain trifling incidents lead her to believe that he is scheming to abduct her by force, and on the strength of this she perhaps writes him an indignant letter, or lodges a complaint with the police. Investigation follows, and it is found that the man is not only entirely innocent of the charges levelled against him, but that he has never expressed the least interest in the lady, and is probably hardly aware of her existence. The lady is certified to be suffering from 'delusions of persecution', and is removed to an asylum. . . . The patient's sex-instincts have been allowed no normal outlet and have finally become sternly repressed, generally with an exaggerated development in consciousness of the opposite quality. This latter, of course, constitutes the prudery so frequently observed in such cases.

. . . The repressed instincts obtain an indirect expression, however, by the mechanism of projection. The desires originating therefrom are roused to activity by the man in question, and the real state of affairs is that the lady is in love with the man, but, owing to the repression, the mind will not acknowledge that these ideas and emotions are part of itself, and finds a solution of the conflict by reversing the significance of the desires and projecting them upon their own object. The bearer of the repugnant complex hence appears to the personality as an unwelcome aggressor, and the genesis of the persecutory delusions is complete ".[1]

It is probable that the ancient and widespread social custom of getting rid of the sins and diseases of a community by destroying them in the person of a scapegoat, human or animal, is a social expression of this psychological mechanism.[2]

Identification

In our discussion of the building up of ideals in the last chapter we spoke of the imitative tendencies of the little child, and the fantasies of the adolescent. From our present point of view, both these are to be understood as the work of the unconscious mechanism known as *identification*, by which another person is treated (in fantasy or in actual response) as if he were oneself. This operates in many ways, both trivial and important. An example of a " slip of the pen " originating from such identification is that of a woman who, writing to a younger female friend, signed the letter with the name of the recipient, to her own confusion and their mutual amusement. Analysis of the situation showed, that consciously aware of nothing but affectionate and admiring regard for her friend, the writer was unconsciously envious of the youth and beautiful complexion of the other woman. If pressed she might have admitted a conscious wish that she also possessed these desirable gifts ; unconsciously, she not only wished to be like her friend, but virtually said " *I am* my friend, and her name is my name ". The same mechanism

[1] B. Hart : " Psychology of Insanity ", chap. IX.
[2] See J. G. Frazer : " The Scapegoat ".

is at work in our enjoyment of a novel, a play or a film, which externalise our day-dreaming. We unconsciously identify ourselves with those whose experiences we follow with breathless interest. We are thrilled by the hero's joys and sorrows, we share his sufferings and triumphs, as if they were our own. We lose ourselves in the hero's life ; and indeed for the time being we *are* the hero. And in the actual relations of life our sympathy with the emotions and the purposes of other people has its unconscious roots in this identification of ourselves with them. The altruism of the conscious level springs straight from such " identification " in the unconscious, and it is through this mechanism that an emotional reconciliation of the claims of self and society is effected.

Compromise

We have no space to speak of other psychological mechanisms which contribute to the practical adjustment of the individual to his environment, and can only refer in passing to the fact that many of the modes of response in which repressed " wishes " find indirect outlet are not merely examples of displacement, but are also to be described as *compromise-formations*. That is to say, they serve as an expression of both the repressed and the repressing groups of tendencies. Many neurotic symptoms, phobias, compulsive acts and hysterical pains have been demonstrated to be of this nature. Not a few social customs have this character of compromise, moreover, and we may content ourselves with such an example.

Professor Westermarck has recorded how, among the superstitious inhabitants of Morocco, fear of the " evil eye " is universal, and a recognised method of averting it is to throw forward the open hand with fingers outstretched, exclaiming, " Five in your eye ! " But the use of this rite may on occasion give offence to an acquaintance or visitor, and a conflict arises between one's legitimate desire to safeguard oneself against evil and one's courtesy or diplomacy. The situation may, however, be saved, and both necessities satisfied, by the casual mention of the number " five ", or even so indirect

a method as a reference to the name of the fifth day of the week! It is in just such a way as this that many neurotic symptoms are determined. Here, however, we have the resolution of a conflict between two conscious desires, whereas the neurotic symptom effects a compromise between tendencies that are unconscious because repressed, and those conscious purposes which act as the repressive factors.

The Content of the Unconscious

The student will find that at the present stage of inquiry the main controversy turns upon the question of the *content* of the unconscious, the nature of the particular impulses which undergo repression. Freud and those who follow him in the use of the psychoanalytic technique have brought forward abundant evidence to show that the content of the unconscious is mainly infantile sexuality, a view which meets with considerable opposition, not always based upon a dispassionate examination of the facts. Here we cannot enter into this discussion, but must point out to the student who goes further in his inquiry two very important considerations. In the first place, the word "sexual" is not used by the Freudians in the everyday conventional sense which refers only to the specific form of sexuality seen in normal mature adults, but in a wider (yet more precise) technical sense which has been forced upon the scientific interpreter by careful study of the facts. Direct observation of the infant, the young child and the adolescent shows that the sexual instinct does not spring full-fledged into ripeness, without antecedents, at the onset of puberty, but already has behind it a long history of development and modification. In the earliest days of infancy a diffuse sexuality is present, appearing in various specific forms, the "biological components" of the mature sexual instincts. Organic pleasures of an erotic type are experienced, for example, in the child's contact with the maternal breast and nursing in the maternal arms, from his own movements of sucking and excretion, the stretching of his limbs, the display of his body to admirers, the habit of thumb-sucking, and so on. (These experiences are as rightly

to be termed sexual as the acorn is to be considered part of the cycle of life of the oak. The acorn is not the " oak tree " of the ignorant observer, but is a phase of " the oak " as understood by the scientific student.) Helpless and passive as the infant is, the outer world is at first inevitably presented in the terms of these massive organic sensations. Even his mother is to him but a vague beneficent or terrifying Something, whose love and will can reach him only through his organic experiences. For long he cannot know her except as an instrument of his own needs and pleasures. It is primarily this sublime egoism of the infant, expressed in the terms of organic experience, which is subjected to repression by the necessities of adaptation to the social world ; and it is this which in one form or another lies at the heart of every neurosis.

In the second place it has to be remembered that it is not possible in theory, or in fact, to make an absolute distinction between the *horme* and the *libido*, between the group of instincts labelled " self-preservative " and those referred to as " sexual ". Such a sharp distinction is commonly implied by many opponents of the Freudian view, but it cannot be maintained as far as psychological values are concerned. The objective ends of the two groups of instincts are relatively distinct, but the organic processes and the psychological attitudes involved overlap and interpenetrate in the most intimate manner. An integral part of a man's " self-hood " is his sexual potency ; a woman feels her " ego " enlarge or contract according to whether she is able to exert sexual attraction. The " self-regarding sentiment " which plays so significant a part in the moral life of the adult is directly connected with the Narcissism of the adolescent, and has its lowest, most obscure roots in the organic self-love of the tiny infant. The child's delight in the display of his body, which returns to many of us in disguised forms in our dreams, is from one point of view erotic, and from another self-assertive, and his frequent pleasure in teasing or tormenting an animal or younger child similarly has both sets of values. In a wealth of detail, patient study of normal and abnormal

individuals by the psychoanalytic technique has amply demonstrated the normal and intimate connection between these two groups of instincts, which for certain purposes of description we commonly classify apart.

In this chapter we have not been able even to outline the whole problem of the unconscious mind, but have only attempted to show the student how true it is that the full story of mental life is not complete until this aspect of it is brought into relation with the study of the conscious, and to indicate some of the many ways in which the " natural " and primitive impulses of the individual are modified by his social inheritance.

SUGGESTIONS FOR READING

I. RELATION OF PSYCHOLOGY TO BIOLOGY

L. T. Hobhouse: "Mind in Evolution".

H. S. Jennings: "Behaviour of the Lower Organisms". (MacMillan Co., New York, 1911.)

J. Loeb: "Forced Movements, Tropisms and Animal Conduct". (Lippincott & Co., London, 1918.)

W. McDougall: "Body and Mind". (Methuen, London, 1913.)

J. A. Thomson: "The System of Animate Nature". (Williams & Norgate, 1920.)

J. B. Watson: "Psychology from the Standpoint of a Behaviourist". (Lippincott, 1919.)

II. GENERAL AND SOCIAL PSYCHOLOGY

W. James: "Principles of Psychology". (Holt & Co., New York, 1890.)

W. McDougall: "An Introduction to Social Psychology". (Methuen, 1920.)

Do. : "The Group Mind." (Cambridge, 1920.)

A. F. Shand: "Foundations of Character". (MacMillan, 1914.)

W. Trotter: "Instincts of the Herd in Peace and War". (Fisher Unwin.)

J. Ward: "Psychological Principles". (Cambridge Univ. Press, 1918.)

G. Wallas: "The Great Society". (MacMillan, 1914.)

III. EXPERIMENTAL PSYCHOLOGY AND MENTAL MEASUREMENT

P. B. Ballard: "Mental Tests". (Hodder & Stoughton, 1920.)

W. Brown and G. H. Thomson: "Mental Measurement". (Cambridge, 1921.)

C. Burt: "The Distribution of Educational Abilities". (P. S. King & Son, 1917.)

L. M. Terman: "The Measurement of Intelligence". (Harrap, 1913.)

C. S. Myers: "Introduction to Experimental Psychology". (Cambridge, 1911.)

C. S. Myers: "Mind and Work". (University of London Press, 1920.)
S. M. Whipple: "Manual of Mental and Physical Tests". (Warwick & York, Baltimore, 1915.)
C. S. Yoakum and R. M. Yerkes: "Mental Tests in the American Army". (Sidgwick & Jackson, 1920.)

IV. PSYCHOANALYSIS

S. Freud: "On Dreams". (Heinemann, 1919.)
Do. : "The Interpretation of Dreams". (Allen & Unwin, 1913.)
Do. : "Three Contributions to the Theory of Sex". (Nervous & Mental Diseases Publishing Co., 1918.)
Do. : "Totem and Taboo". (G. Routledge & Sons, 1919.)
H. W. Frink: "Morbid Fears and Compulsions". (Moffat, Yard & Co., 1918.)
E. Jones: "Psychoanalysis". (Bailliere, Tindall & Cox, 1918.)
C. G. Jung: "Psychology of the Unconscious". (Kegan, Paul & Co.)
Do. : "Analytic Psychology." (Bailliere, Tindall & Cox, 1920.)
Do. : "Studies in Word Association". (Bailliere, Tindall & Cox, 1918.)
W. A. White: "Mechanisms of Character-Formation". (1916.)

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